

# Service Manual

ORDER NO.  
**CRT4143**

DVD MULTIMEDIA AV NAVIGATION SERVER

# AVIC-N5

/XU/UC

DVD MULTIMEDIA AV NAVIGATION HEAD UNIT

# AVIC-X3II

/XU/EW5



 is a trademark of DVD Format/Logo Licensing Corporation.

This service manual should be used together with the following manual(s) listed below.  
For the parts numbers, adjustments, etc. which are not shown in this manual,  
refer to the following manual(s).

Model No.	Order No.	Mech. Module	Remarks
AVIC-N4/XU/UC	CRT3971		
CX-3212	CRT3896	MS5	DVD Mech. Module : Circuit Descriptions, Mech. Descriptions, Disassembly

This product has the unit part number as below.

Unit Part No.	Description
CPN2830	Navigation Unit (AVIC-N5/XU/UC)
CPN2832	H/A Unit (AVIC-N5/XU/UC)
CPN2831	Navigation Unit (AVIC-X3II/XU/EW5)
CPN2837	H/A Unit (AVIC-X3II/XU/EW5)

\*) The unit part numbers listed above are not for the service components.

# SAFETY INFORMATION

## WARNING

This product contains certain electrical parts contain chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.  
Health & Safety Code Section 25249.6 - Proposition 65

This product contains mercury. Disposal of this material may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: [www.eiae.org](http://www.eiae.org).

The backlighting lamp of LCD in this equipment contains mercury. Disposal of this material may be regulated due to environmental considerations according to Local, State or Federal Laws. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: [www.eiae.org](http://www.eiae.org)

## EXPLODED VIEWS AND PARTS LIST

### PACKING(UC)(Page 150)

\* : Non spare part

Mark	No.	Description	AVIC-N4/XU/UC	AVIC-N5/XU/UC
	2	Unit Box	CHG6243	CHG6576
	3	Contain Box	CHL6243	CHL6576
	36	DVD-ROM	CPJ1184	CPJ1255
	38-2	Owner's Manual	CRB2449	CRB2738(English)
	38-3	Owner's Manual/POC/FRE	CRB2450	CRB2739(French)
	38-4	Owner's Manual	CRB2451	CRB2740(English)
	38-5	Owner's Manual/POC/FRE	CRB2452	CRB2741(French)
	38-6	Installation Manual	CRD4241	CRD4341

### PACKING(EW5)(Page 152)

#### PACKING(EW5) SECTION PARTS LIST

Mark	No.	Description	AVIC-X3/XU/EW5	AVIC-X3II/XU/EW5
	2	Unit Box	CHG6242	CHG6575
	3	Contain Box	CHL6242	CHL6575
	36	DVD-ROM	Not used	CPJ1256
	38-2	Owner's Manual/PEE/ENG	CRB2453	CRB2742(English)
	38-3	Owner's Manual/PEE/SPE	CRB2454	CRB2743(Spanish)
	38-4	Owner's Manual/PEE/GER	CRB2455	CRB2744(German)
	38-5	Owner's Manual/PEE/FRE	CRB2456	CRB2745(French)
	38-6	Owner's Manual/PEE/ITA	CRB2457	CRB2746(Italian)
	38-7	Owner's Manual/PEE/DUT	CRB2458	CRB2747(Dutch)
	38-8	Owner's Manual/PEE/ENG	CRB2459	CRB2748(English)
	38-9	Owner's Manual/PEE/SPE	CRB2460	CRB2749(Spanish)
	38-10	Owner's Manual/PEE/GER	CRB2461	CRB2750(German)
	38-11	Owner's Manual/PEE/FRE	CRB2462	CRB2751(French)
	38-12	Owner's Manual/PEE/ITA	CRB2463	CRB2752(Italian)
	38-13	Owner's Manual/PEE/DUT	CRB2464	CRB2753(Dutch)
	38-14	Installation Manual	CRD4242	CRD4342
*	38-16	Caution Card	CRP1362	Not used

## EXTERIOR(1)(Page 154)

### EXTERIOR(1) SECTION PARTS LIST

Mark	No.	Description	AVIC-N4/XU/UC	AVIC-N5/XU/UC
	16	Case	CNB3412	CNB3528
	65	Grille Assy	CXC7367	CXC9837
	74	Plate	CNS9023	CNS9561
	104	Mother Tuner Unit	CWN2310	CWN3657

Mark	No.	Description	AVIC-X3/XU/EW5	AVIC-X3II/XU/EW5
	16	Case	CNB3412	CNB3528
	65	Grille Assy	CXC7368	CXC9838
	74	Plate	CNS9024	CNS9562
	104	Mother Unit	CWN2311	CWN3658(Mother Tuner Unit)

## EXTERIOR(2)(Page 156)

### EXTERIOR(2) SECTION PARTS LIST

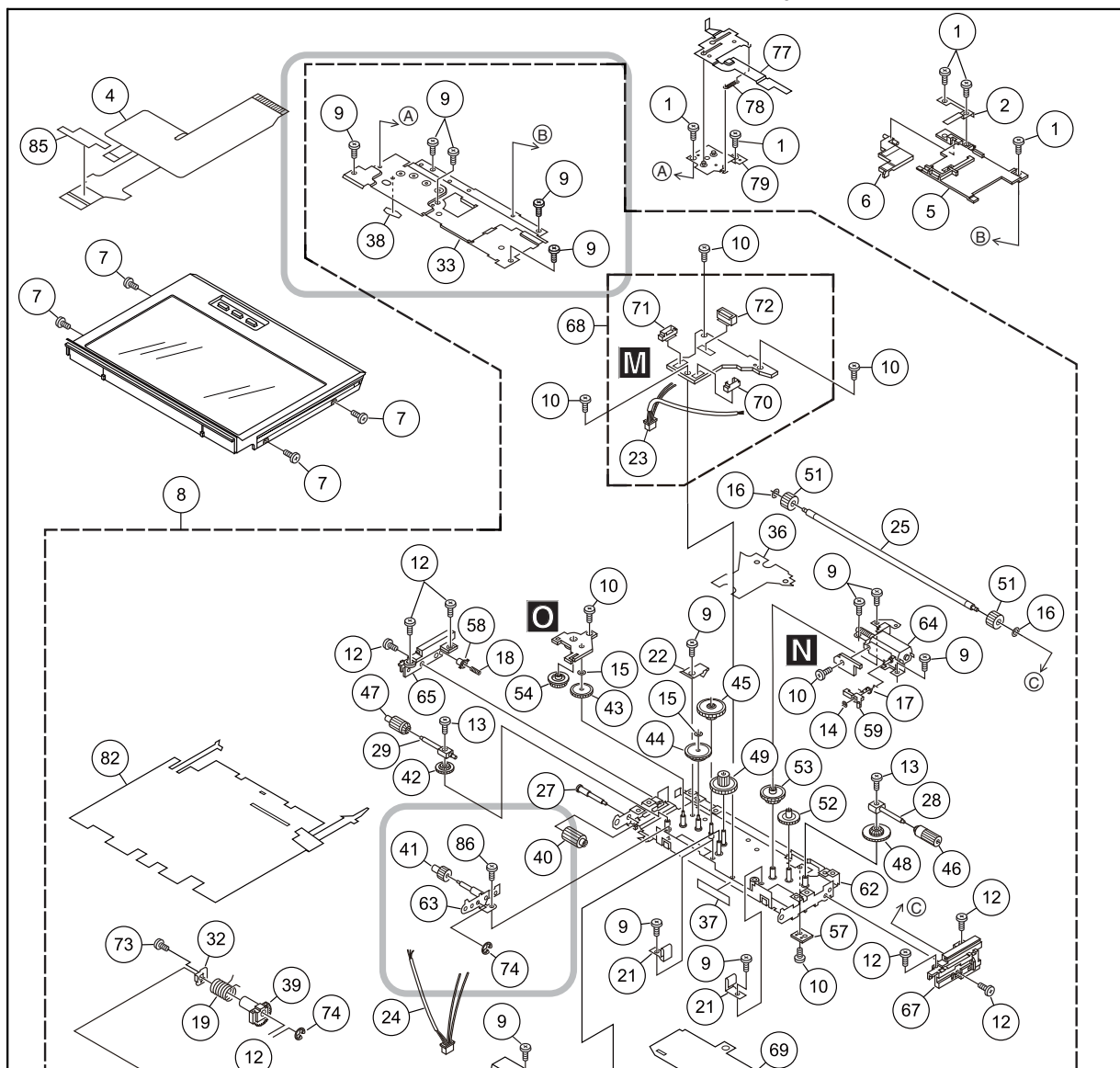
Mark	No.	Description	AVIC-N4/XU/UC AVIC-X3/XU/EW5	AVIC-N5/XU/UC AVIC-X3II/XU/EW5
	8	Drive Unit	CXC7637	CXC9160
	9	Screw(M2 x 2)	CBA1608(x8)	CBA2129(x12)
	12	Screw(M2 x 3)	CBA1877(x13)	CBA1877(x8)
	19	Spring	CBH2908	CBH3007
	20	Spring	CBH2909	CBH3004
	28	Shaft	CLA4663	CLA4821
	29	Shaft	CLA4664	CLA4814
	36	Insulator	CNN1058	CNN2168
	54	Gear	CNV8987	CNW1055
	62	Frame Unit	CXC6143	CXC9184
	68	Main PCB Unit(Service)	CXX2316	* EWX1005(Main PCB Unit)
	86	Screw(M2 x 2)	Not used	CBA1955

A

B

C

D



## EXTERIOR(4)(Page 162)

### EXTERIOR(4) SECTION PARTS LIST

Mark	No.	Description	AVIC-N4/XU/UC	AVIC-N5/XU/UC
	7	Case	CNB3408	CNB3526
	10	Mother Tuner Unit	CWN2310	CWN3657

Mark	No.	Description	AVIC-X3/XU/EW5	AVIC-X3II /XU/EW5
	7	Case	CNB3409	CNB3527
	10	Mother Unit	CWN2311	CWN3658(Mother Tuner Unit)
	37	FM/AM Tuner Unit	CWE2045	CWE2130

E

## ELECTRICAL PARTS LIST(Page 264)

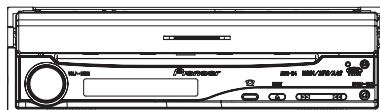
### MOTHER TUNER UNIT

Circuit Symbol and No.	Part Name	AVIC-N4/XU/UC AVIC-X3/XU/EW5	AVIC-N5/XU/UC AVIC-X3II /XU/EW5
IC1606	IC(UC)	PEG355A	PEG503A8
IC1606	IC(EW5)	PEG354A	PEG502A8
ZNR1401	Surge Protector	RCCA-201Q31UA-PI	CSA30-201N

F



# Service Manual



AVIC-N4/XU/UC

ORDER NO.  
**CRT3971**

DVD MULTIMEDIA AV NAVIGATION SERVER

# AVIC-N4<sub>/XU/UC</sub>

DVD MULTIMEDIA AV NAVIGATION HEAD UNIT

# AVIC-X3<sub>/XU/EW5</sub>

This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech.Module	Remarks
CX-3212	CRT3896	MS5	DVD Mech. Module : Circuit Descriptions, Mech. Descriptions, Disassembly

Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

This product has the unit part number as below.

Unit Part No.	Description
CPN2375	Navigation Unit(AVIC-N4/XU/UC)
CPN2377	H/A Unit(AVIC-N4/XU/UC)
CPN2376	Navigation Unit(AVIC-X3/XU/EW5)
CPN2378	H/A Unit(AVIC-X3/XU/EW5)

\*) The unit part numbers listed above are not for the service components.



For details, refer to "Important Check Points for Good Servicing".

# SAFETY INFORMATION

## CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

## WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.  
Health & Safety Code Section 25249.6 - Proposition 65

This product contains mercury. Disposal of this material may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: [www.eiae.org](http://www.eiae.org).

The backlighting lamp of LCD in this equipment contains mercury. Disposal of this material may be regulated due to environmental considerations according to Local, State or Federal Laws. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: [www.eiae.org](http://www.eiae.org)

### 1. Safety Precautions for those who Service this Unit.

- Follow the adjustment steps in the service manual when servicing this unit. When check - ing or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.

#### Caution:

- During repair or tests, minimum distance of 13 cm from the focus lens must be kept.
- During repair or tests, do not view laser beam for 10 seconds or longer .

### 2. The triangular label is attached to the mechanism unit frame.

#### CAUTION

This product contains a laser diode of higher class than 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product.

Refer all servicing to qualified personnel.

The following caution label appears on your unit.

On the top of the player.



### WARNING!

The AEL (accessible emission level) of the laser power output is less than CLASS 1 but the laser component is capable of emitting radiation exceeding the limit for CLASS 1.

A specially instructed person should do servicing operation of the apparatus.

### Laser diode characteristics

Wave length:

DVD:660 nm to 670 nm

CD:780 nm to 800 nm

Maximum Output

DVD : 1.27 mW(Emitting period :9 sec.)

CD : 6.26 mW(Emitting period : unlimited)

### Additional Laser Caution

Transistors Q1103 and Q1104 in PCB drive the laser diodes for DVD and CD respectively. When Q1103 or Q1104 is shorted between their terminals, the laser diodes for DVD or CD will radiate beam. If the top cover is removed with no disc loaded while such short-circuit is continued, the naked eyes may be exposed to the laser beam.

## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.  
Please be sure to confirm and follow these procedures.

### 1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.  
Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.  
In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.  
If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.  
Please pay attention to your surroundings and repair safely.

### 2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.  
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### 3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance.  
Make sure the proper amount is applied.

### 4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### 5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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# 1. SERVICE PRECAUTIONS

## 1.1 SERVICE PRECAUTIONS

### A ● Service Precaution



1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
2. Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.
3. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may ICs inside the unit.
4. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to “the DISASSEMBLY”.
5. After replacing the pickup unit, be sure to skew adjustment.
6. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.



powered by



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## 1.2 NOTES ON SOLDERING

### NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.  
Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.
- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40°C. Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:  
GYP1006 1.0 in dia.  
GYP1007 0.6 in dia.  
GYP1008 0.3 in dia.

## 2. SPECIFICATIONS

### 2.1 SPECIFICATIONS

#### ● AVIC-N4/XU/UC

##### General

Rated power source ..... 14.4 V DC  
(allowable voltage range:  
10.8 V to 15.1 V DC)

Grounding system ..... Negative type  
Max. current consumption  
..... 10.0 A

Backup current ..... 5.5 mA or less

##### Display unit:

Dimensions (W X H X D):

##### DIN

Chassis ..... 178 X 50 X 160 mm  
(7 X 2 X 6-1/4 in.)  
Nose ..... 188 X 58 X 33 mm  
(7-3/8 X 2-1/4 X 1-3/8 in.)

##### D

Chassis ..... 178 X 50 X 165 mm  
(7 X 2 X 6-1/2 in.)  
Nose ..... 170 X 46 X 28 mm  
(6-3/4 X 1-3/4 X 1-1/4 in.)

Weight ..... 2.3 kg (5.1 lbs)

##### Hideaway unit:

Dimensions (W X H X D):

..... 180 X 30 X 140 mm

Weight ..... 0.7 kg (1.5 lbs)

##### Navigation

##### GPS Receiver:

System ..... L1, C/Acode GPS  
SPS (Standard Positioning  
Service)

Reception system ..... 8-channel multi-channel  
reception system

Reception frequency ... 1 575.42 MHz

Sensitivity ..... -130 dBm

Position update frequency

..... Approx. once per second

##### GPS antenna:

Antenna ..... Micro strip flat antenna/  
right-handed helical polar-  
ization

Antenna cable ..... 5.0 m (16 ft. 5 in.)

Dimensions (W X H X D)  
..... 33 X 13 X 36 mm  
(1-1/4 X 1/2 X 1-3/8 in.)

Weight ..... 105 g (0.23 lbs)

##### Display

Screen size/aspect ratio ..... 7 inch wide/16:9  
(effective display area: 156 X  
89 mm)

Pixels ..... 336 960 (1 440 X 234)

Type ..... TFT active matrix, transmis-  
sive type

Color system ..... NTSC

Operating temperature range

..... +14 °F to +122 °F

Storage temperature range

..... -4 °F to +176 °F

##### Audio

Continuous power output is 22 W per channel minimum  
into 4 ohms, both channels driven 50 to 15 000 Hz with  
no more than 5% THD.

Maximum power output ..... 50 W X 4  
50 W X 2 ch/4 Ω + 70 W X 1  
ch/2 Ω (for subwoofer)

Load impedance ..... 4 Ω (4 Ω to 8 Ω [2 Ω for 1 ch]  
allowable)

Preout max output level/output impedance

..... 1.7 V/1 kΩ

Equalizer (3-Band Parametric Equalizer):

##### Low

Frequency ..... 40/80/100/160 Hz

Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB  
when boosted)

Gain ..... ±12dB

##### Mid

Frequency ..... 200 Hz/500 Hz/1 kHz/2 kHz

Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB  
when boosted)

Gain ..... ±12dB

##### High

Frequency ..... 3.15/8/10/12.5 kHz

Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB  
when boosted)

Gain ..... ±12dB

##### Loudness contour:

Low ..... +3.5 dB (100 Hz), +3 dB  
(10 kHz)

Mid ..... +10 dB (100 Hz), +6.5 dB  
(10 kHz)

High ..... +11 dB (100 Hz), +11 dB  
(10 kHz)  
(volume: -30 dB)

##### HPF:

Frequency ..... 50/80/125 Hz

Slope ..... -12 dB/oct

##### Subwoofer:

Frequency ..... 50/80/125 Hz

Slope ..... -18 dB/oct

Gain ..... ±12dB

Phase ..... Normal/Reverse

##### DVD Drive

System ..... DVD-Video, Compact disc  
audio, MP3, WMA, AAC,  
DivX system

Usable discs ..... DVD-Video, Compact disc,  
MP3, WMA, AAC, DivX

Region number ..... 1

##### Signal format:

Sampling frequency ..... 44.1/48/96 kHz

Number of quantization bits

..... 16/20/24; linear

Frequency response ..... 5 Hz to 44 000 Hz (with DVD,  
at sampling frequency  
96 kHz)

Signal-to-noise ratio ..... 97 dB (1 kHz) (IHF-A net-  
work)  
(CD: 96 dB (1 kHz) (IHF-A  
network))



Dynamic range ..... 95 dB (1 kHz)  
 (CD: 94 dB (1 kHz))  
 Distortion ..... 0.008 % (1 kHz)  
 Output level:  
   Video ..... 1.0 Vp-p/75Ω (±0.2 V)  
   Audio ..... 1.0 V (1 kHz, 0 dB)  
 Number of channels ..... 2 (stereo)  
 MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3  
 WMA decoding format ..... Ver.9.0 L3  
 AAC decoding format ..... MPEG-4 AAC (only encoded  
   by iTunes)  
   ; .m4a  
 DivX decoding format ..... Home Theater Ver.3, Ver.4,  
   Ver.5.2  
   ; .avi, .divx

#### FM tuner

Frequency range ..... 87.9 MHz to 107.9 MHz  
 Usable sensitivity ..... 8 dBf (0.7 μV/75Ω, mono, S/  
   N: 30 dB)  
 Signal-to-noise ratio ..... 75 dB (IHF-A network)  
 Distortion ..... 0.3 % (at 65 dBf, 1 kHz, ste-  
   reo)  
   0.1 % (at 65 dBf, 1 kHz,  
   mono)  
 Frequency response ..... 30 Hz to 15 000 Hz (±3 dB)  
 Stereo separation ..... 45 dB (at 65 dBf, 1 kHz)

#### AM tuner

Frequency range ..... 530 kHz to 1 710 kHz  
   (10 kHz)  
 Usable sensitivity ..... 18 μV (S/N: 20 dB)  
 Signal-to-noise ratio ..... 65 dB (IHF-A network)

#### Note:

- Specifications and the design are subject to possible modifications without notice due to improvements.

## ● AVIC-X3/XU/EW5

### General

Rated power source ..... 14.4 V DC  
(allowable voltage range:  
12.0 V to 14.4 V DC)

Earthing system..... Negative type  
Maximum current consumption  
..... 10.0 A

Backup current..... 5.5 mA or less

#### Display unit:

##### Dimensions (W × H × D):

###### DIN

Chassis..... 178 × 50 × 160 mm

Nose..... 188 × 58 × 33 mm

###### D

Chassis..... 178 × 50 × 165 mm

Nose..... 170 × 46 × 28 mm

Weight..... 2.3 kg

#### Hideaway unit:

##### Dimensions (W × H × D):

..... 180 × 30 × 140 mm

Weight..... 0.7 kg

### Navigation

#### GPS Receiver:

System..... L1, C/Acode GPS  
SPS (Standard Positioning  
Service)

Reception system..... 8-channel multi-channel  
reception system

Reception frequency... 1 575.42 MHz

Sensitivity..... -130 dBm

Position update frequency  
..... Approx. once per second

#### GPS aerial:

Aerial..... Micro strip flat aerial/right-  
handed helical polarisation

Aerial cable..... 5.0 m

Dimensions (W × H × D)

..... 33 × 13 × 36 mm

Weight..... 105 g

### Display

Screen size/aspect ratio .... 7 inch wide/16:9  
(effective display area: 156 ×  
89 mm)

Pixels..... 336 960 (1 440 × 234)

Type..... TFT active matrix, transmis-  
sive type

Colour system..... NTSC/PAL compatible

Operating temperature range  
..... -10 °C to +50 °C

Storage temperature range  
..... -20 °C to +80 °C

Angle adjustment..... 50° to 110°  
(Initial setting angle: 90°)

### Audio

Maximum power output..... 50 W × 4  
50 W × 2 ch/4 Ω + 70 W × 1  
ch/2 Ω (for subwoofer)

Continuous power output ... 22 W × 4 (50 Hz to 15 kHz,  
5 %THD, 4Ω LOAD, Both  
Channels Driven)

Load impedance ..... 4Ω (4 Ω to 8 Ω [2 Ω for 1 ch]  
allowable)

Preout max output level/output impedance

..... 1.7 V/1 k Ω

#### Equaliser (3-Band Parametric Equaliser):

##### Low

Frequency..... 40/80/100/160 Hz

Q Factor..... 0.35/0.59/0.95/1.15 (+6 dB  
when boosted)

Gain..... ±12dB

##### Mid

Frequency..... 200 Hz/500 Hz/1 kHz/2 kHz

Q Factor..... 0.35/0.59/0.95/1.15 (+6 dB  
when boosted)

Gain..... ±12dB

##### High

Frequency..... 3.15/8/10/12.5 kHz

Q Factor..... 0.35/0.59/0.95/1.15 (+6 dB  
when boosted)

Gain..... ±12dB

#### Loudness contour:

Low..... +3.5 dB (100 Hz), +3 dB  
(10 kHz)

Mid..... +10 dB (100 Hz), +6.5 dB  
(10 kHz)

High..... +11 dB (100 Hz), +11 dB  
(10 kHz)  
(volume: -30 dB)

#### HPF:

Frequency..... 50/80/125 Hz

Slope..... -12 dB/oct

#### Subwoofer:

Frequency..... 50/80/125 Hz

Slope..... -18 dB/oct

Gain..... ±12dB

Phase..... Normal/Reverse

### DVD Drive

System..... DVD-Video, Compact disc  
audio, MP3, WMA, AAC,  
DivX system

Usable discs..... DVD-Video, Compact disc,  
MP3, WMA, AAC, DivX

Region number..... 2

**Signal format:**

Sampling frequency .....	44.1/48/96 kHz
Number of quantisation bits .....	16/20/24; linear
Frequency response .....	5 Hz to 44 000 Hz (with DVD, at sampling frequency 96 kHz)
Signal-to-noise ratio .....	97 dB (1 kHz) (IEC-A network) (CD: 96 dB (1 kHz) (IEC-A network))
Dynamic range .....	95 dB (1 kHz) (CD: 94 dB (1 kHz))
Distortion .....	0.008 % (1 kHz)
Output level:	
Video .....	1.0 Vp-p/75 $\Omega$ ( $\pm 0.2$ V)
Audio .....	1.0 V (1 kHz, 0 dB)
Number of channels .....	2 (stereo)
MP3 decoding format .....	MPEG-1 & 2 Audio Layer 3
WMA decoding format .....	Ver.9.0 L3
AAC decoding format .....	MPEG-4 AAC (only encoded by iTunes) - .m4a
DivX decoding format .....	Home theater Ver.3, Ver.4, Ver.5.2 - avi, .divx

**FM tuner**

Frequency range .....	87.5 MHz to 108.0 MHz
Usable sensitivity .....	8 dBf (0.7 $\mu$ V/75 $\Omega$ , mono, S/N: 30 dB)
Signal-to-noise ratio .....	75 dB (IEC-A network)
Distortion .....	0.3 % (at 65 dBf, 1 kHz, stereo) 0.1 % (at 65 dBf, 1 kHz, mono)
Frequency response .....	30 Hz to 15 000 Hz ( $\pm 3$ dB)
Stereo separation .....	45 dB (at 65 dBf, 1 kHz)

**MW tuner**

Frequency range .....	531 kHz to 1 602 kHz (9 kHz)
Usable sensitivity .....	18 $\mu$ V (S/N: 20 dB)
Signal-to-noise ratio .....	65 dB (IEC-A network)

**LW tuner**

Frequency range .....	153 kHz to 281 kHz
Usable sensitivity .....	30 $\mu$ V (S/N: 20 dB)
Signal-to-noise ratio .....	65 dB (IEC-A network)

**Note:**

- Specifications and design are subject to possible modifications without notice due to improvements.

Playable Discs

About DVD-Video and CD

DVD and CD discs that display the logos shown below generally can be played back on this built-in DVD drive.

DVD-Video



CD



- ☐ **DVD** is a trademark of DVD Format/Logo Licensing Corporation.
- ☐ It is not possible to play back DVD-Audio discs. This DVD drive may not be able to play all discs bearing the marks shown above.

About AVCHD recorded discs

This unit is not compatible with discs recorded in AVCHD (Advanced Video Codec High Definition) format.  
Do not insert AVCHD discs.If inserted, the disc may not be ejected.

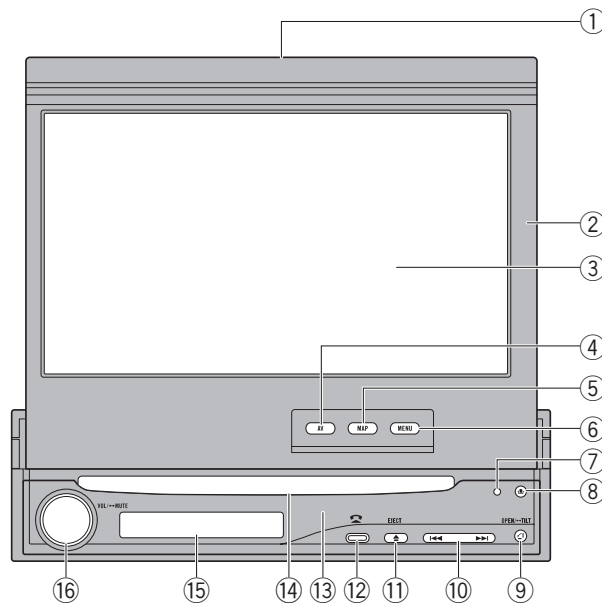
About Dual layer discs

The unit cannot play back DVD-R/-RW discs that are written in Layer Jump Recording mode. For more information about the writing method, see the operation manual for the writing device.

About DVD Map Disc

You can use discs intended for this navigation system. Use only discs approved by Pioneer.

## 2.3 PANEL FACILITIES



### ① Disc indicator

When a disc is set in navigation system, this indicator lights.

### ② LCD panel

### ③ LCD screen

### ④ AV button

Press to display the AV operation screen.

### ⑤ MAP button

Press to view the map or change view mode.

### ⑥ MENU button

Press to display the navigation menu or AV menu.

### ⑦ RESET button

### ⑧ DETACH button

Press to remove the front panel from the display unit.

### ⑨ OPEN/CLOSE button

Press to open or close the LCD panel.

Press and hold to display Flap Setup screen.

### ⑩ ◀◀/▶▶ button

Press to perform manual seek tuning, fast forward, reverse and track search controls.

### ⑪ EJECT button

### ⑫ PHONE button

Press to display BT-TEL operation screen.

Press and hold to switch the indication of sub display in the following order:

Present time — No indication — AV source information

### ⑬ Front panel

### ⑭ Disc loading slot

### ⑮ Sub Display

Displays the current time or information about the AV source that is currently playing.

### ⑯ VOLUME knob

Turn to adjust the AV (Audio and Video) volume or press to change the AV source. Press and hold the VOLUME knob to switch the source to mute.

## Resetting the Microprocessor

### **CAUTION**

- Pressing the RESET button deletes the contents of the system's memory.

### About the data being deleted

The information is erased by pressing the RESET button or disconnecting the yellow lead from the battery (or removing the battery itself). However, the following items are not erased:

- Sensor learning status and driving status
- Memory areas that were memorised manually
- Areas to avoid
- Registered Locations in "Address Book"

### Reset the navigation system without changing the condition memory

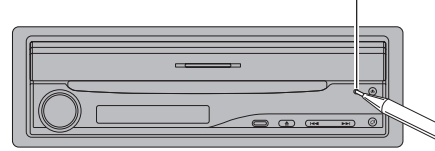
Pressing the RESET button of the navigation system lets you reset the microprocessor to its initial settings without changing the condition memory.

The microprocessor must be reset under the following conditions:

- Prior to using this product for the first time after installation.
- If the product fails to operate properly.
- If there appear to be problems with the operation of the system.
- When changing the combination of the equipment.
- When adding/removing additional products that connect to the navigation system.

- Turn the ignition switch OFF.
- Press the RESET button with a pen tip or other pointed instrument.

RESET button



- If you have connected other equipment (for example, Bluetooth adapter) to this navigation system, be sure to reset that equipment too.

### Reset the navigation system to the initial (factory) setting

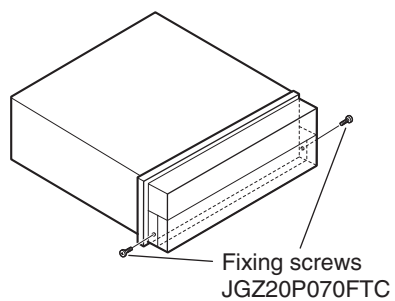
When you want to erase memorised settings and return the navigation system to its initial (factory) settings, carry out the following operations.

- Turn the engine ON or set the ignition switch to ACC position.
- Press the RESET button with a pen tip or other pointed instrument.
  - Some navigation settings and data are not erased.

## Fixing the front panel

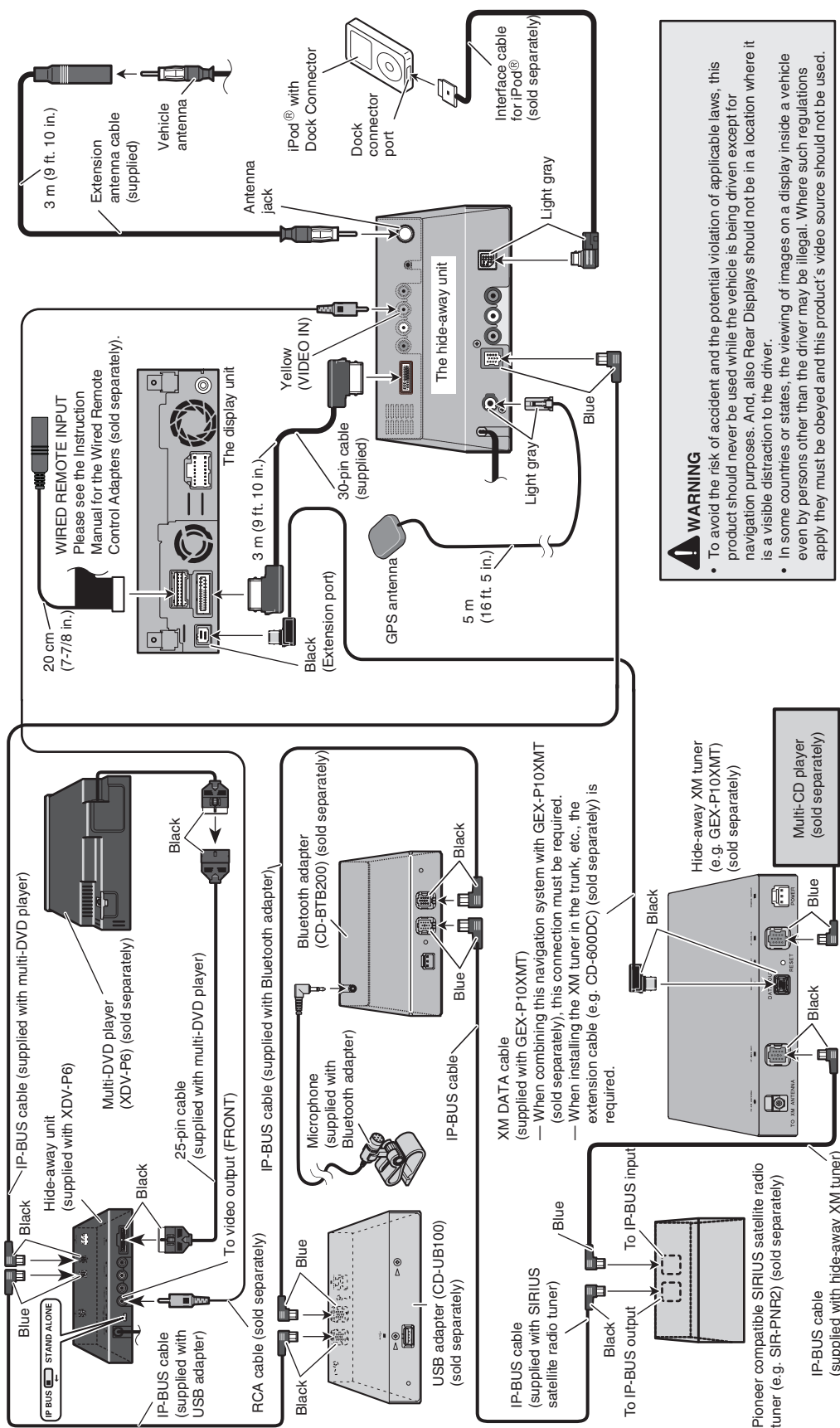
If you do not operate the removing and attaching the front panel function, use the supplied fixing screws to fix the front panel to the display unit.

- Fix the front panel to the display unit using the fixing screws after removing the frame.

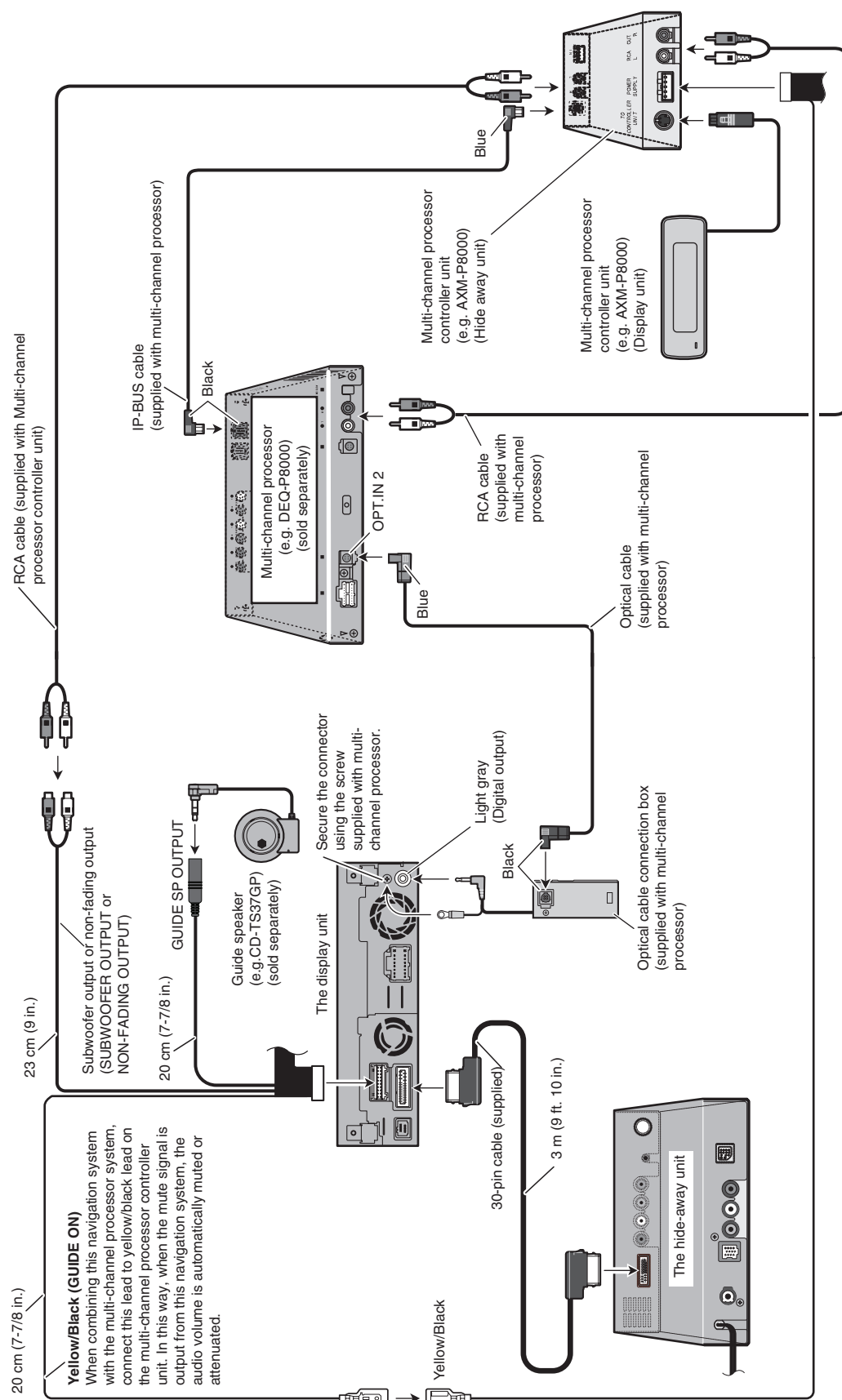


2.4 CONNECTION DIAGRAM

CONNECTION DIAGRAM (AVIC-N4/XU/UC)







A

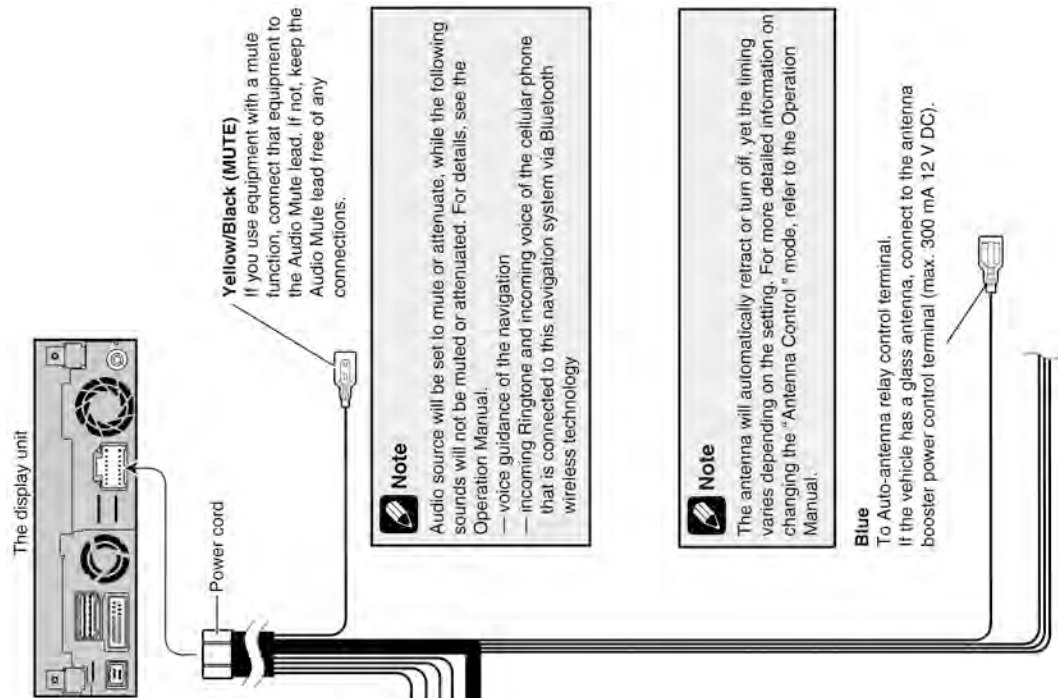
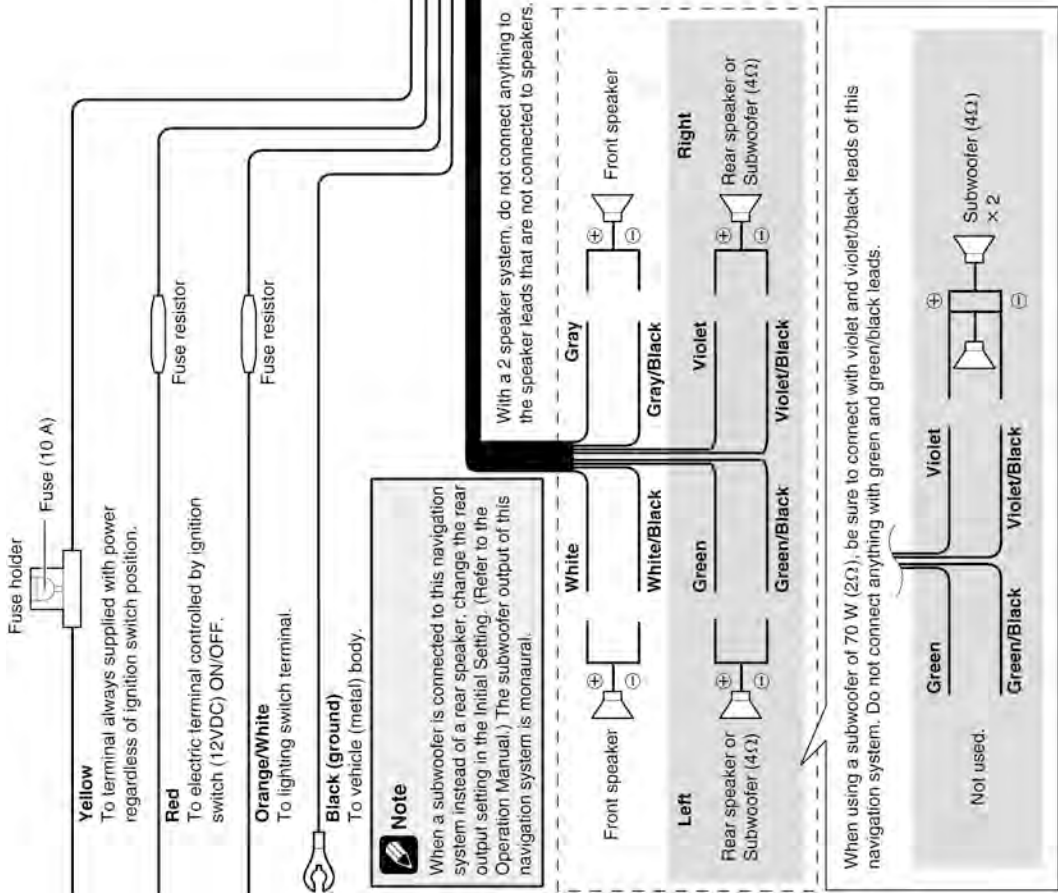
B

C

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F



## A



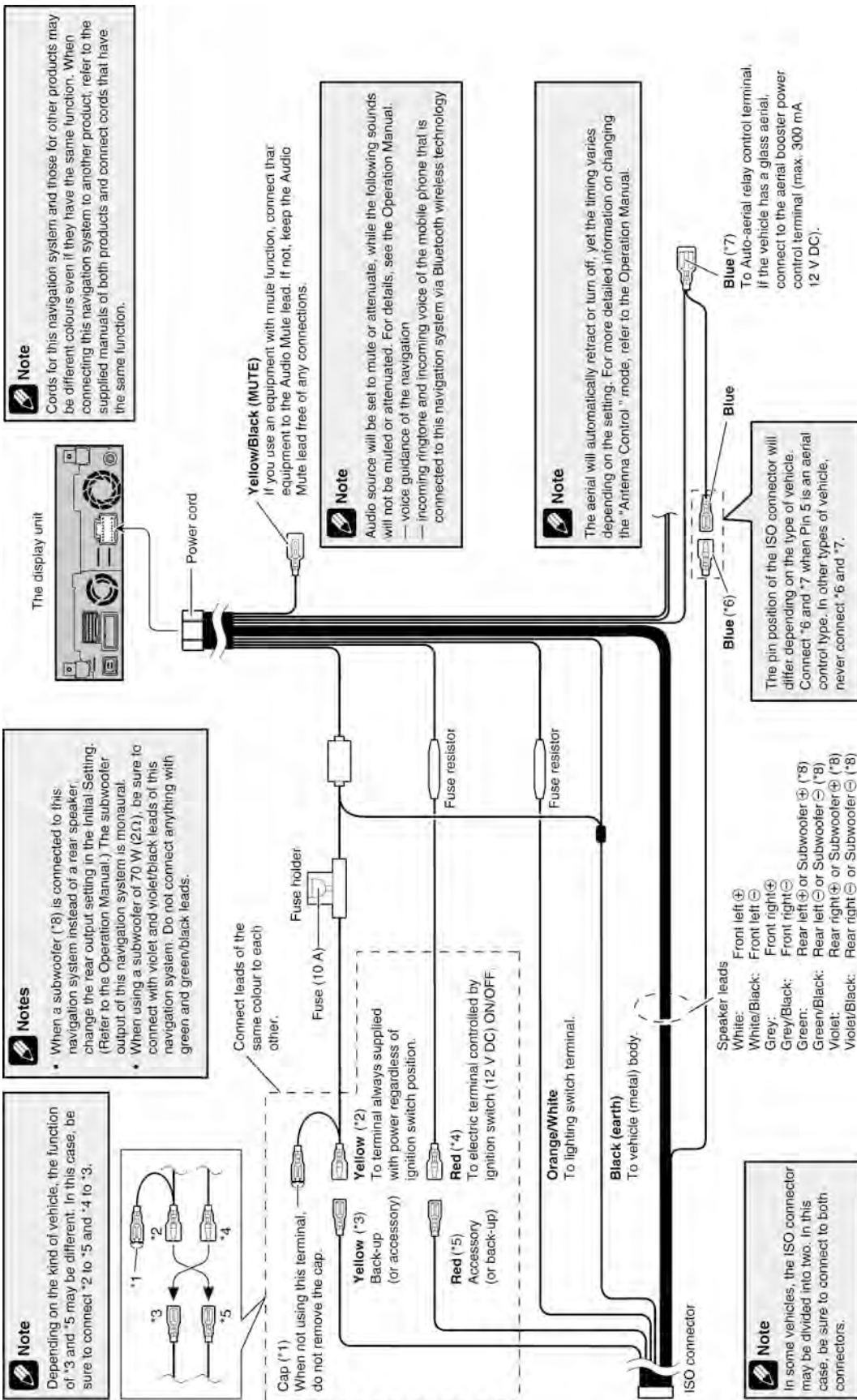
## C

- D

E

F

A  
B  
C  
D  
E  
F



## 3. BASIC ITEMS FOR SERVICE

### 3.1 CHECK POINTS AFTER SERVICING

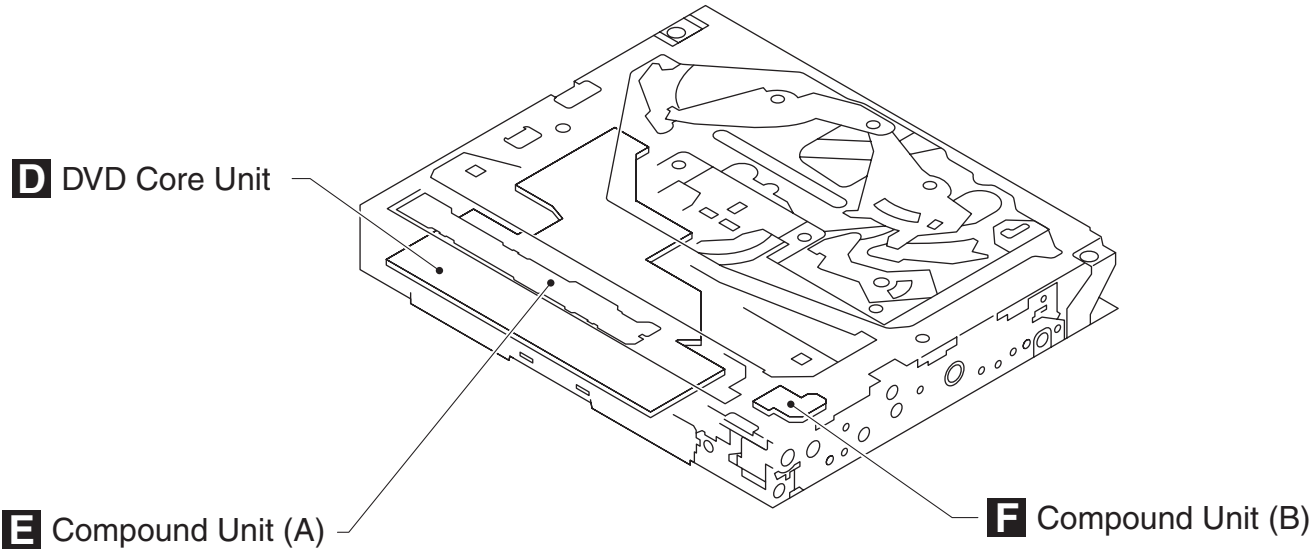
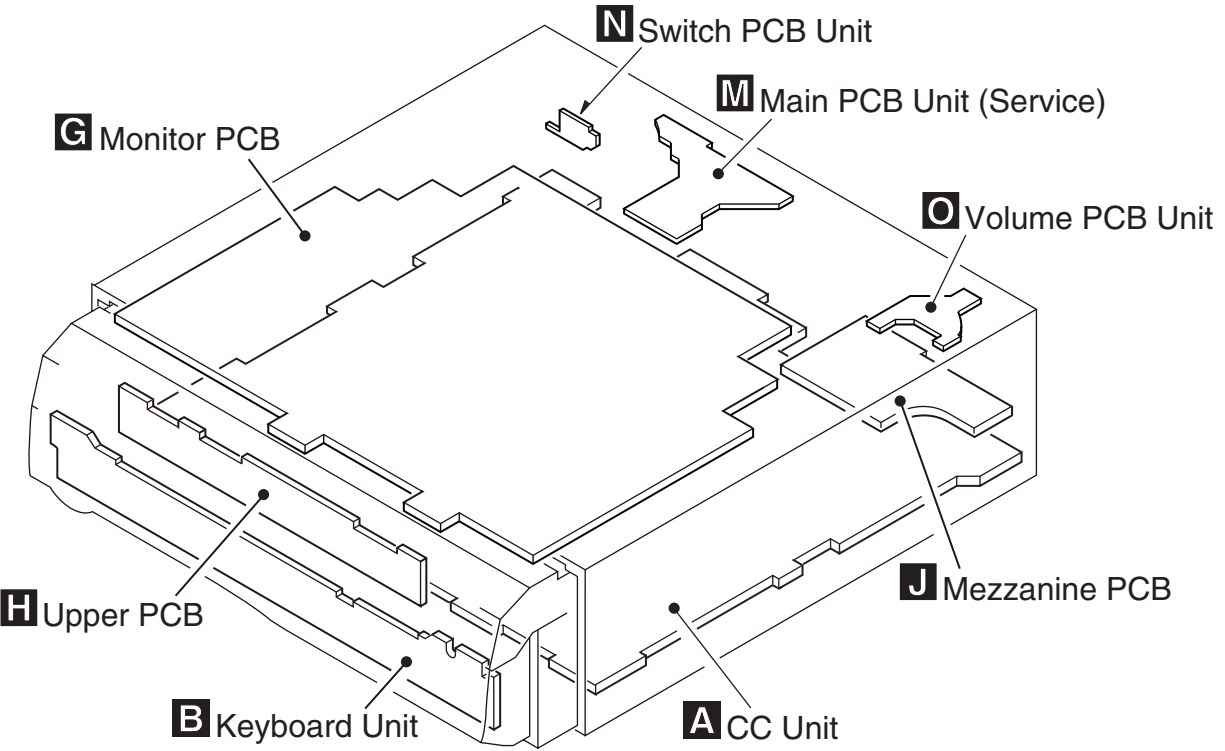
To keep the product quality after servicing, please confirm following check points.

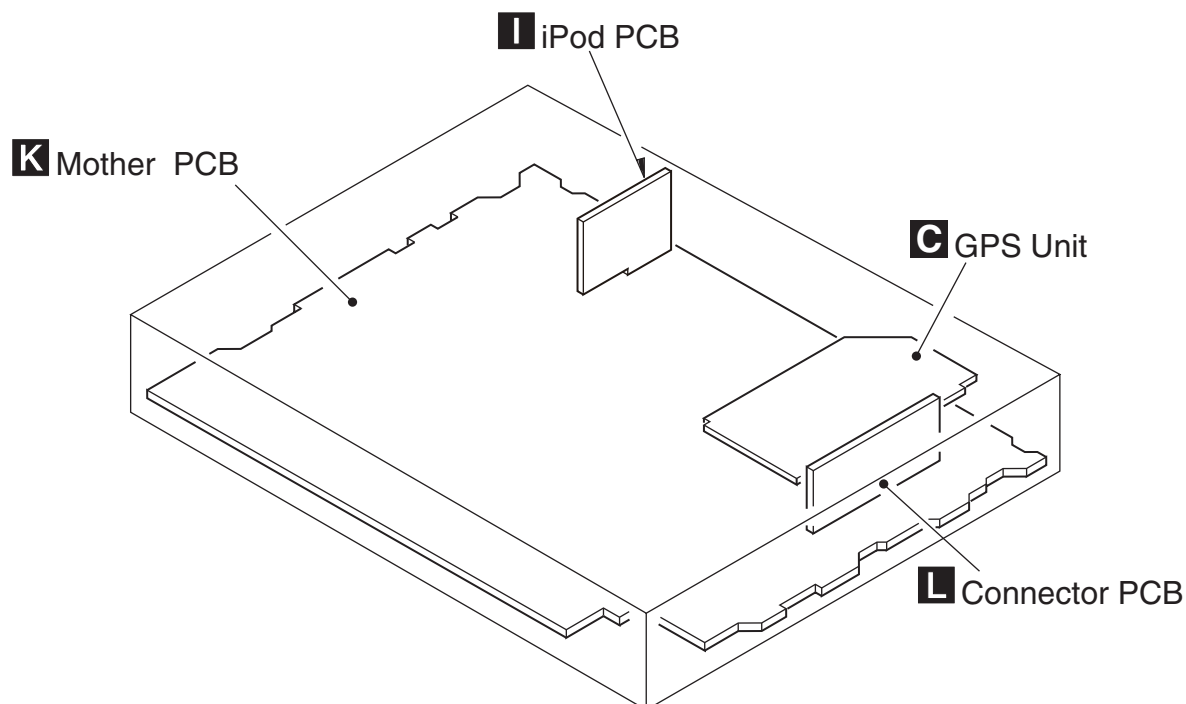
No.		Procedures	Item to be confirmed
1		Confirm whether the customer complain has been solved. If the customer complain occurs with the specific media, use it for the operation check.	The customer complain must not be reappeared. Display, video, audio and operations must be normal.
2	Flap-mecha	Check the operation of the flap mechanism.	The flap mechanism operation must be smooth without making the noise and scratches.
3	DVD	Measure playback error rates at the innermost and outermost tracks by using the test mode with the following disc. DVD test disc (GGV1025)	Deterioration of mecha-drive can be checked. The error rates must be <u>less than 2.5e-4</u> .
4	DVD	Play back a DVD. (Menu operation; Title/chapter search)	Display, video, audio and operations must be normal.
5	CD	Play back a CD. (Track search)	Display, audio and operations must be normal.
6	FM/AM tuner	Check FM/AM tuner action. (Seek, Preset) Switch band to check both FM and AM.	Display, audio and operations must be normal.
7	TV tuner	Check TV tuner action. (Seek; Preset)	Display, video, audio and operations must be normal.
8	GPS positioning	Connect GPS antenna to the product, and check whether the current location is correct.	Current location must be correct. Display and operations must be normal.
9	Gyro action	On "3D Calibration Status", check whether the gyro sensor works well by moving the front face of the product from left to right and up and down.	Gyro-sensing, display and operations must be normal.
10	Map display Touch-panel operation Remote-control operation	Check functions of map scale change and map scroll.	Display and operations must be normal.
11		Delete data added during the operating check. Check whether no media (CD etc.) is inside the product.	Make sure to delete data added during the operating check. The media used for the operating check must be ejected.
12		Appearance check	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block-noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

3.2 PCB LOCATIONS





Unit Number : CWN2308(UC)  
 Unit Number : CWN2309(EW5)  
 Unit Name : CC Unit  
 Unit Number :  
 Unit Name : Keyboard Unit  
 Unit Number : CWX3533(UC)  
 Unit Number : CWX3534(EW5)  
 Unit Name : GPS Unit  
 Unit Number : CWN2304  
 Unit Name : Monitor Unit  
 Unit Number : CWN2310(UC)  
 Unit Name : Mother Tuner Unit(UC)  
 Unit Number : CWN2311(EW5)  
 Unit Name : Mother Unit(EW5)  
 Unit Number : CXX2316  
 Unit Name : Main PCB Unit(SERVICE)  
 Unit Number : CZW5029  
 Unit Name : Switch PCB Unit  
 Unit Number : CZW5028  
 Unit Name : Volume PCB Unit  
 Unit Number : CWX3401  
 Unit Name : DVD Core Unit  
 Unit Number : CWX3154  
 Unit Name : Compound Unit(A)  
 Unit Number : CWX3394  
 Unit Name : Compound Unit(B)

### 3.3 JIGS LIST

#### ● Jigs List

Name	Jig No.	Remarks
Disc	GGV1018	Skew adjustment
TORX driver(T2)	GGK1095	Skew adjustment
Bond	GEM1033	Skew adjustment
DVD test disc	GGV1025	Check points after servicing
60P PCB	GGF1495	CC Unit (CN608) <--> Main Unit (CN101)
60P FFC	GGD1380	CC Unit (CN608) <--> GGF1495
40P+20P PCB	GGF1461	CC Unit (CN608) <--> Monitor PCB (CN5003)
15P PCB	GGF1494	CC Unit (CN2701) <--> Grille Assy
15P FFC	GGD1123	CC Unit (CN2701) <--> GGF1494
40P FFC	GGD1170	Monitor PCB (CN5003) <--> GGF1461
OSD PCB	GGF1416	Monitor Adjustment PCB (*)
PCB and FFC	GGF1463	JIG connector Assy (*)
14P FFC	GGD1322	Monitor Unit (CN5801) <--> GGF1463 (*)
DVD-ROM	GGV1310	TEST DISC (Operation check)

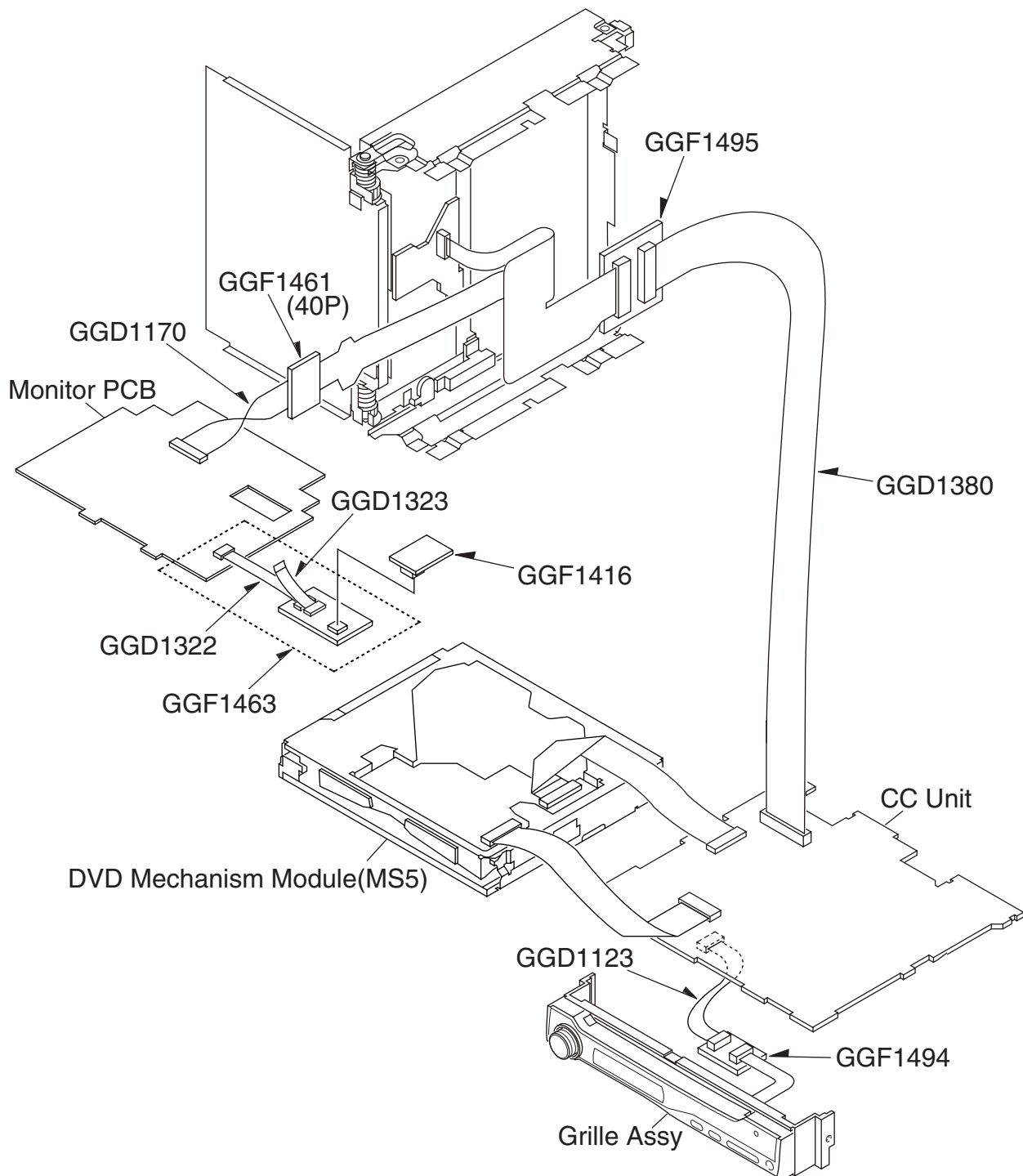
\*) Since this product does not have OSD IC, OSD for adjustment is displayed by using GGF1416 and GGF1463 at the time of monitor adjustment. As GGD1323 is not used, be careful not to short the terminal.

#### ● Grease List

Name	Jig No.	Remarks
Grease	GEM1024	DVD Mechanism Module and Drive Unit
Grease	GEM1043	DVD Mechanism Module and Drive Unit
Grease	GEM1045	DVD Mechanism Module
Grease	GEM1050	DVD Mechanism Module
Locking agents	1401M	DVD Mechanism Module (1401M:produced by THREE BOND)
Grease	GEM1011	Drive Unit
Grease	GEM1047	Drive Unit
Grease	GEM1071	Drive Unit
Grease	GEM1072	Drive Unit



### 3.4 JIG CONNECTION DIAGRAM



### 3.5 CLEANING



Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
DVD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

Portions to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

# 4. BLOCK DIAGRAM

## 4.1 OVERALL WIRING DIAGRAM

A

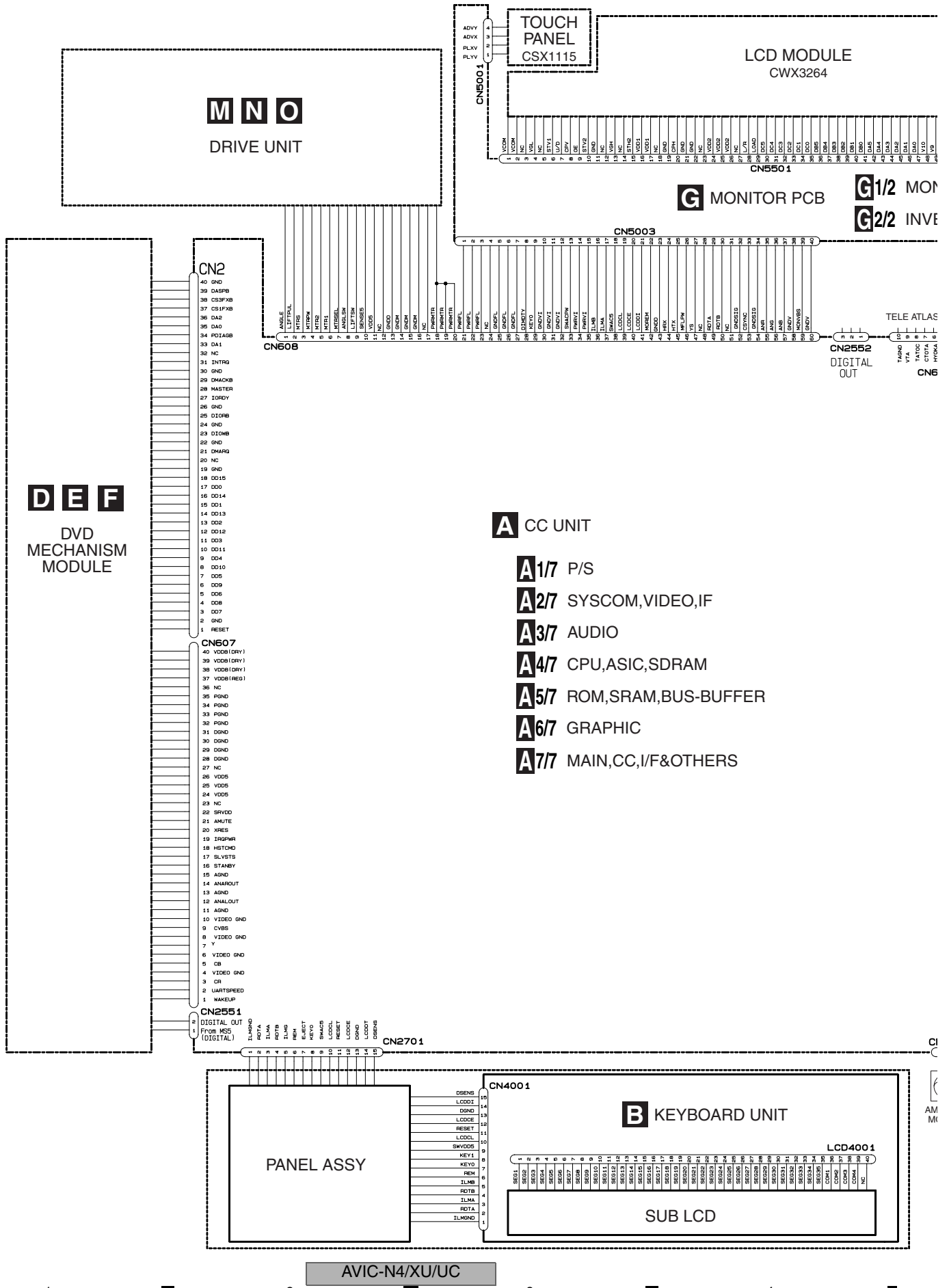
B

C

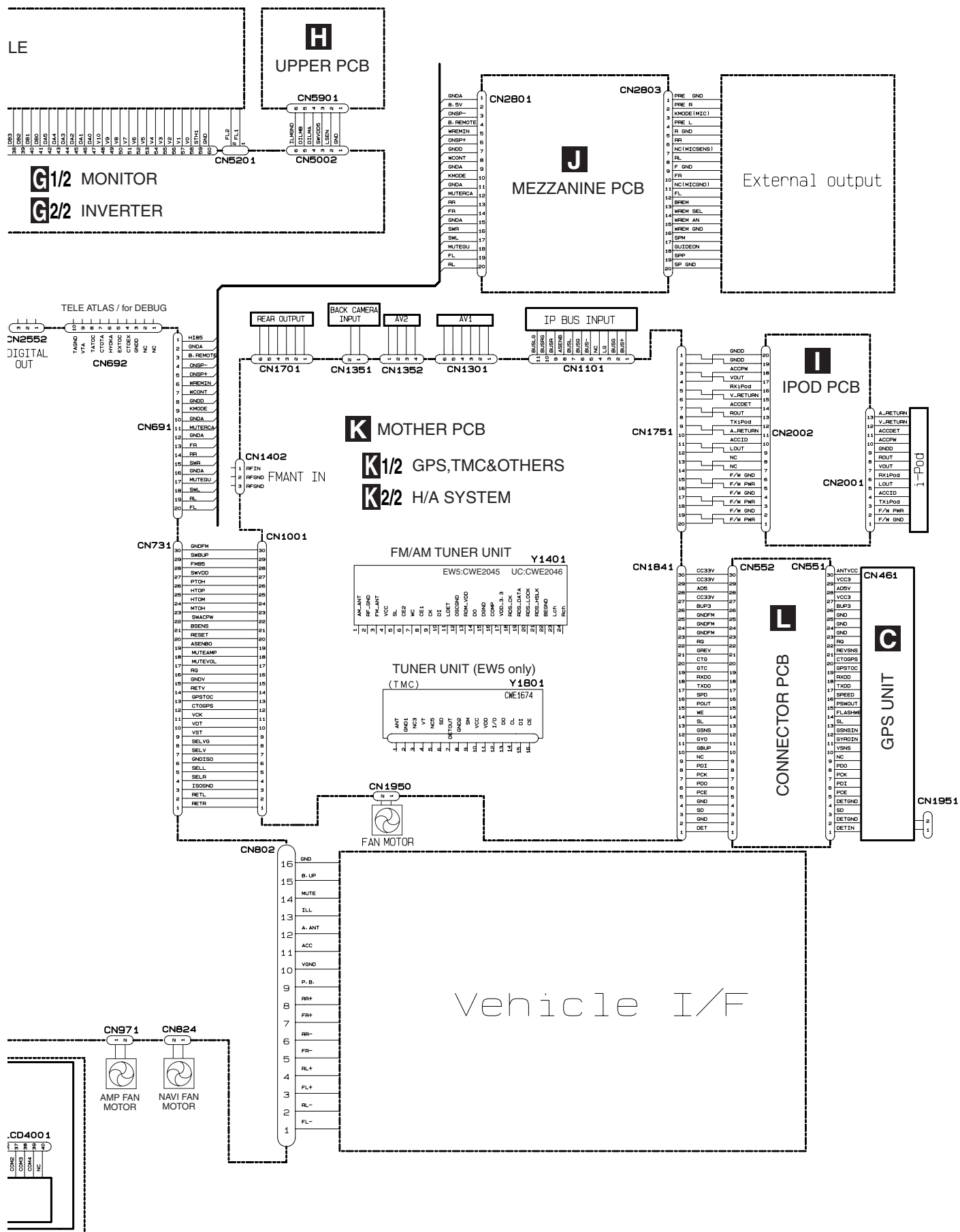
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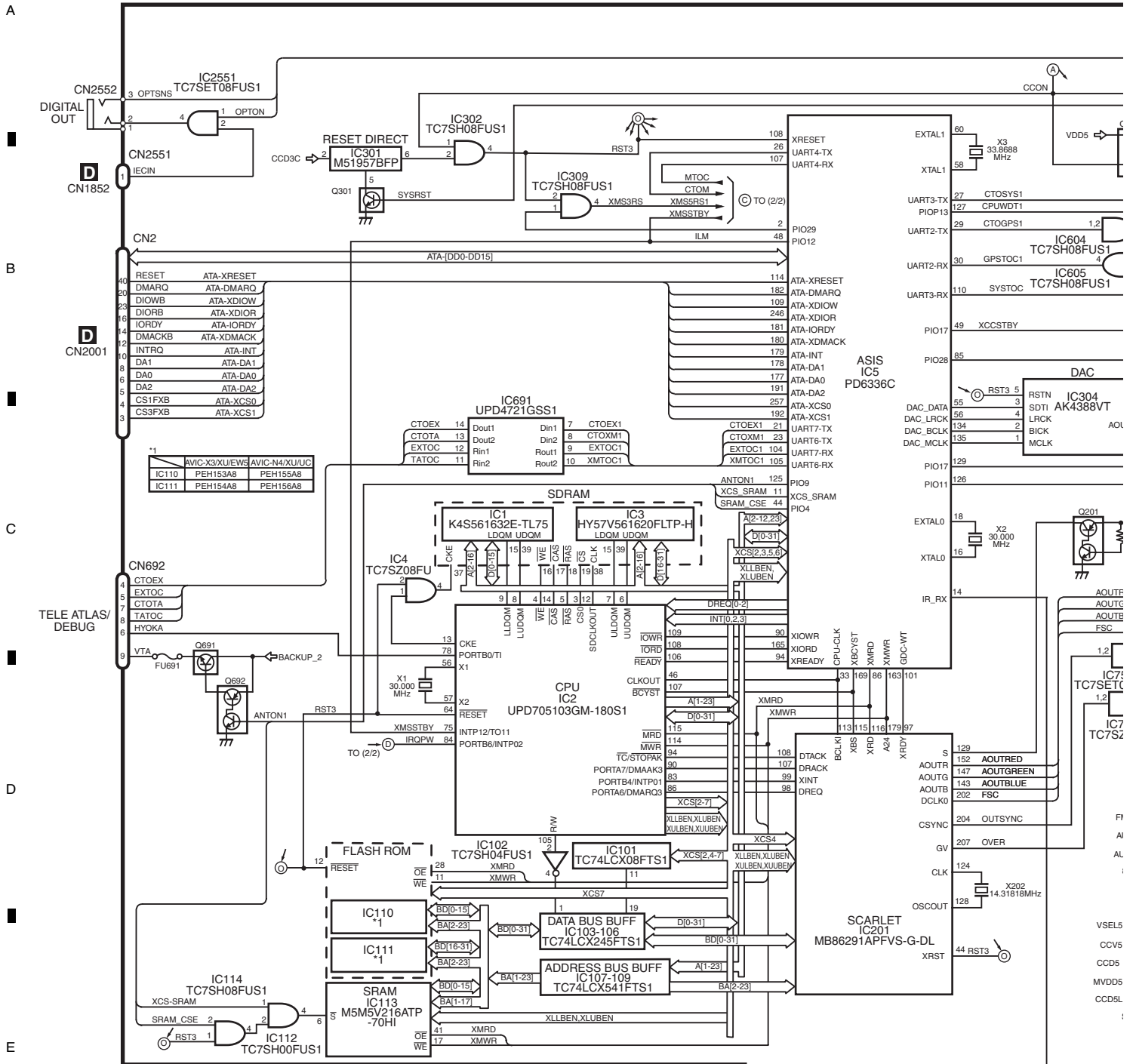


**Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".**

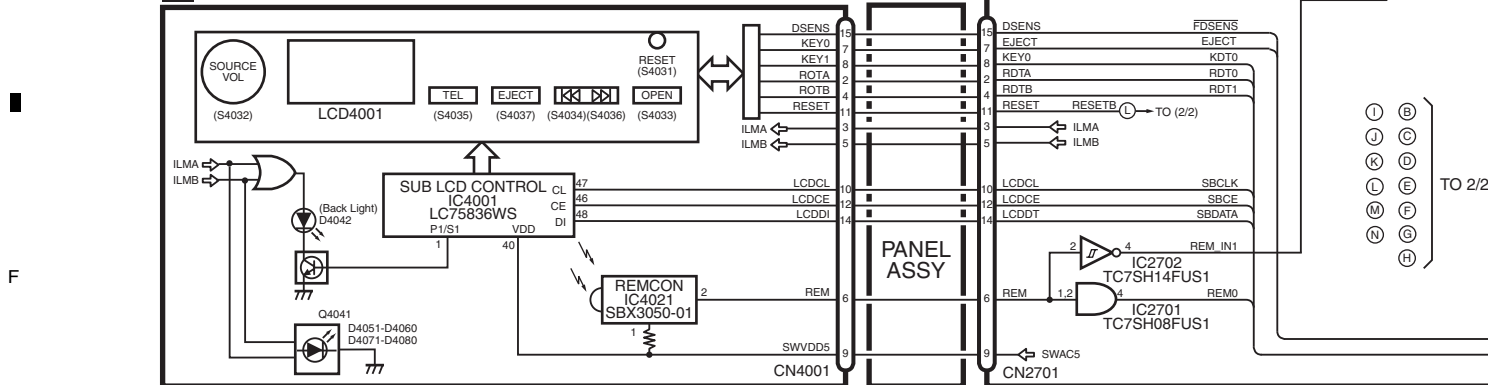


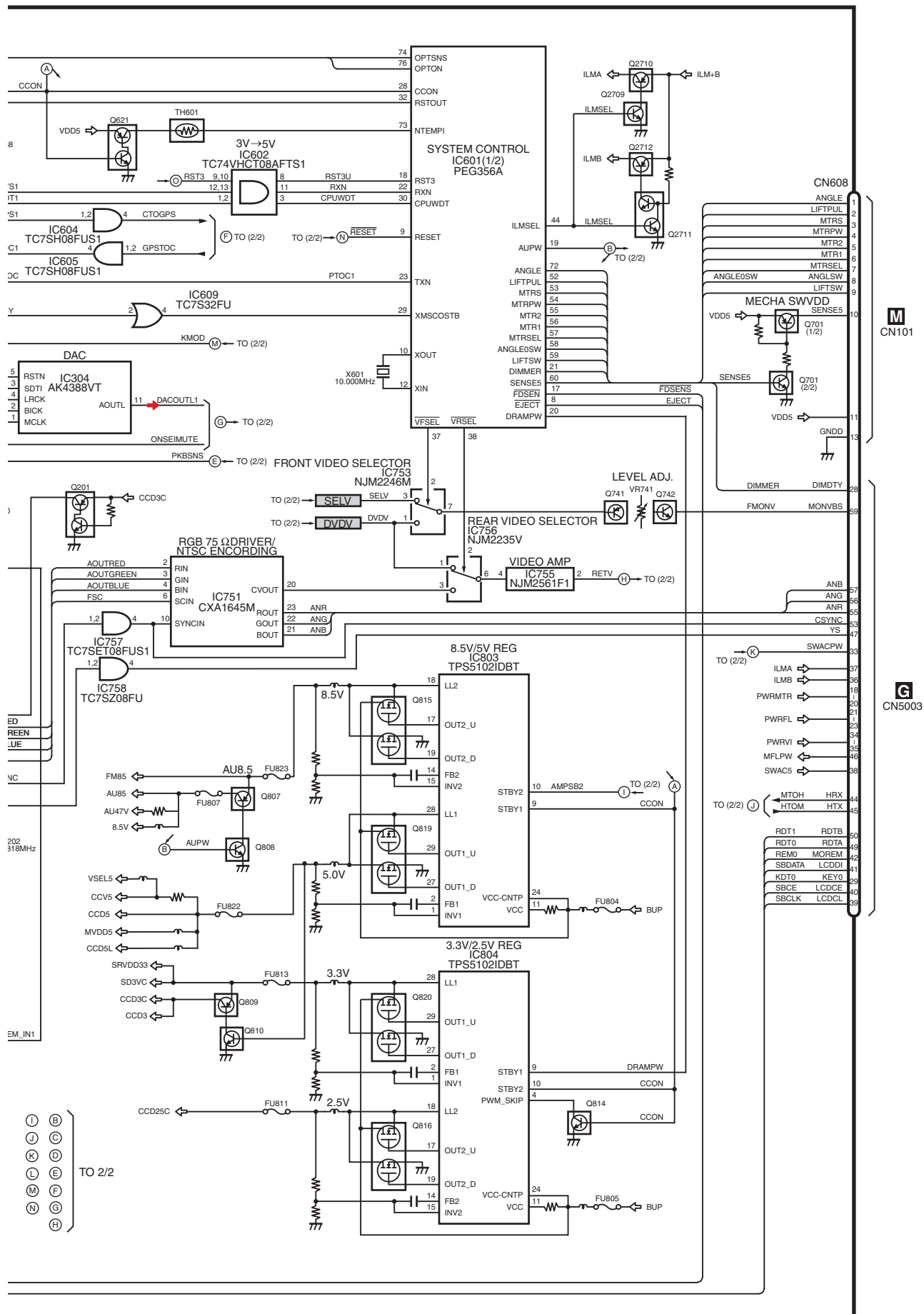
## 4.2 BLOCK DIAGRAM

### A CC UNIT (1/2)



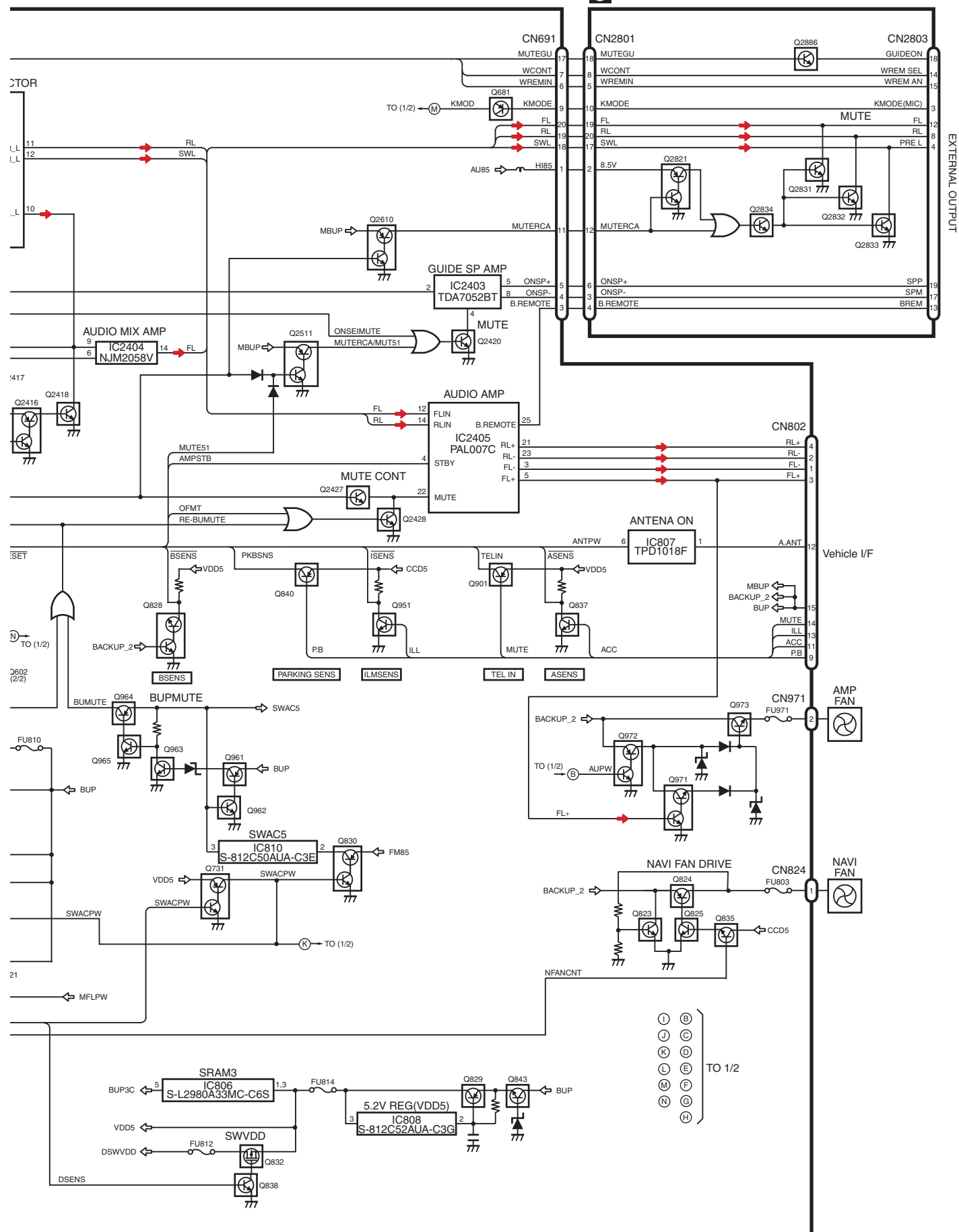
### B KEYBOARD UNIT





## 4

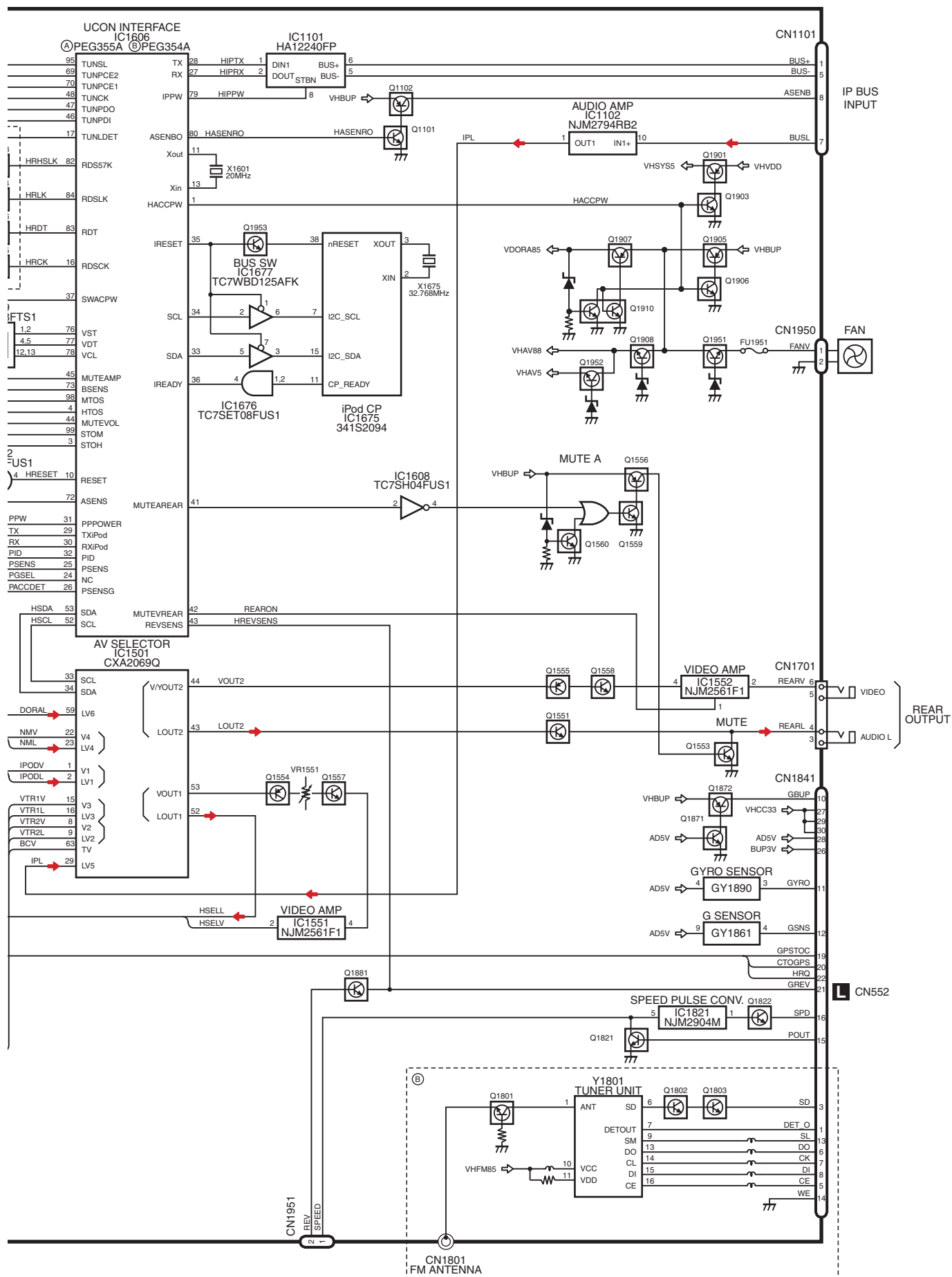
## J MEZZANINE PCB



## MOTHER PCB







# MONITOR PCB

A

B

C

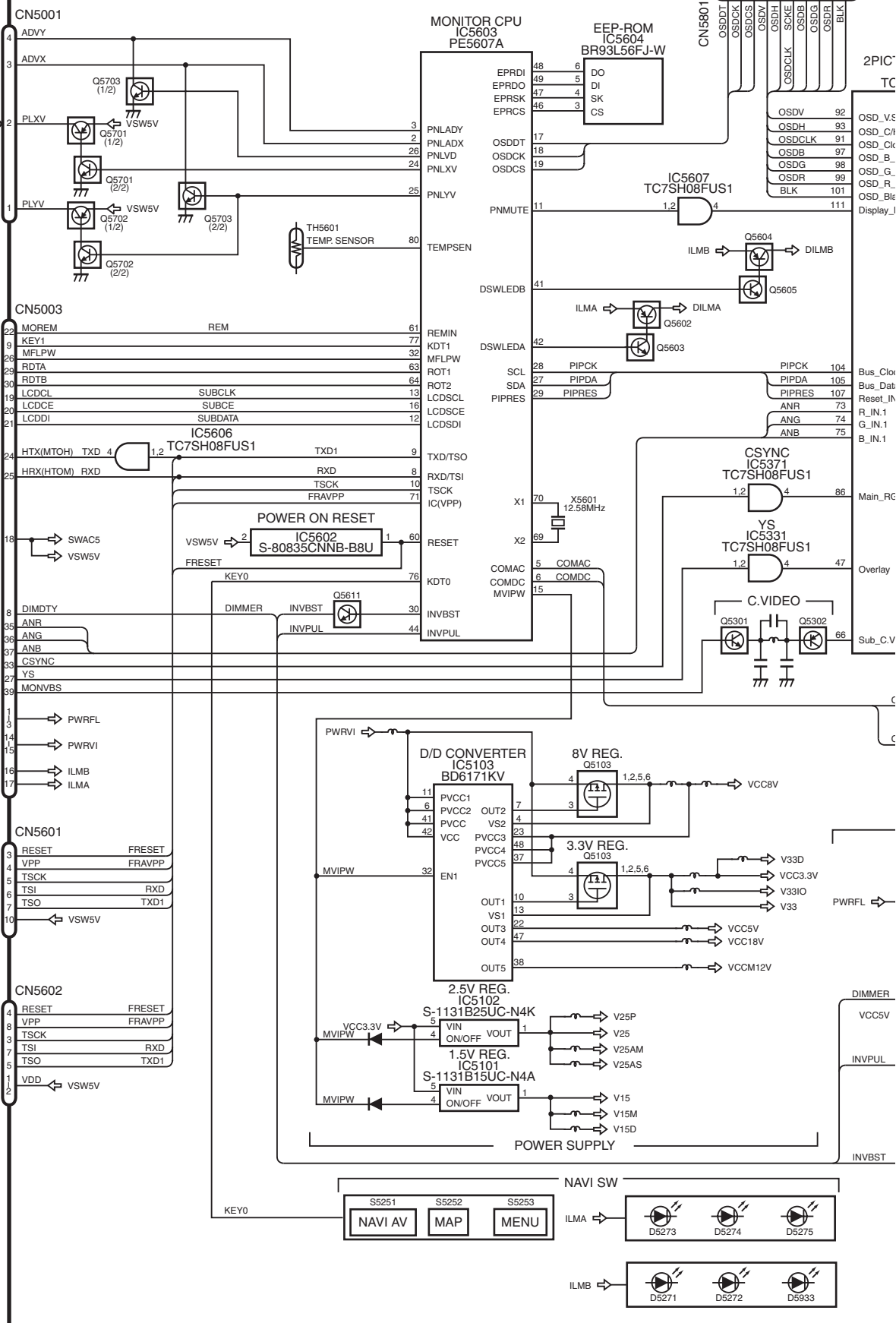
D

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TOUCH PANEL

A CN608





A

B

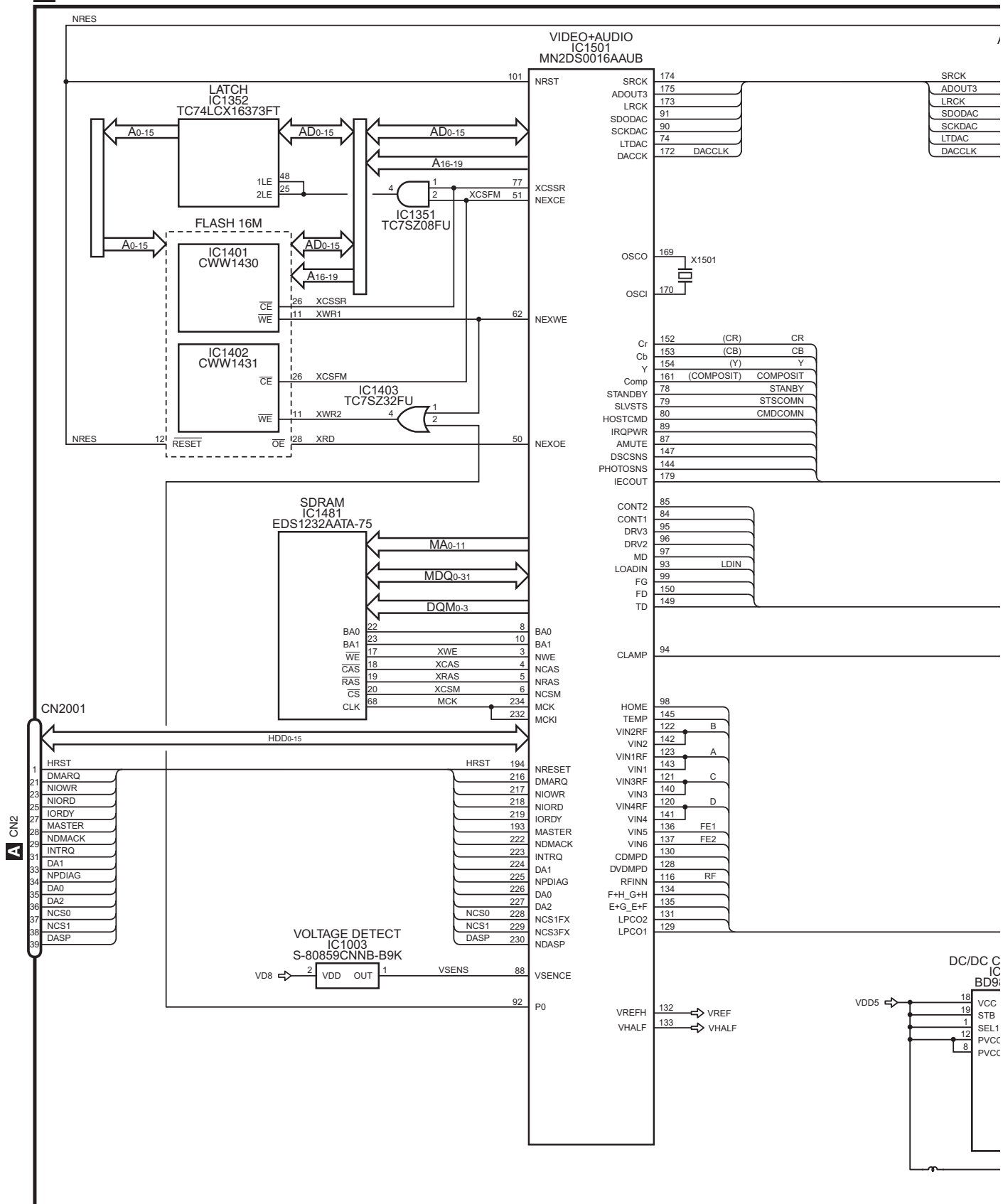
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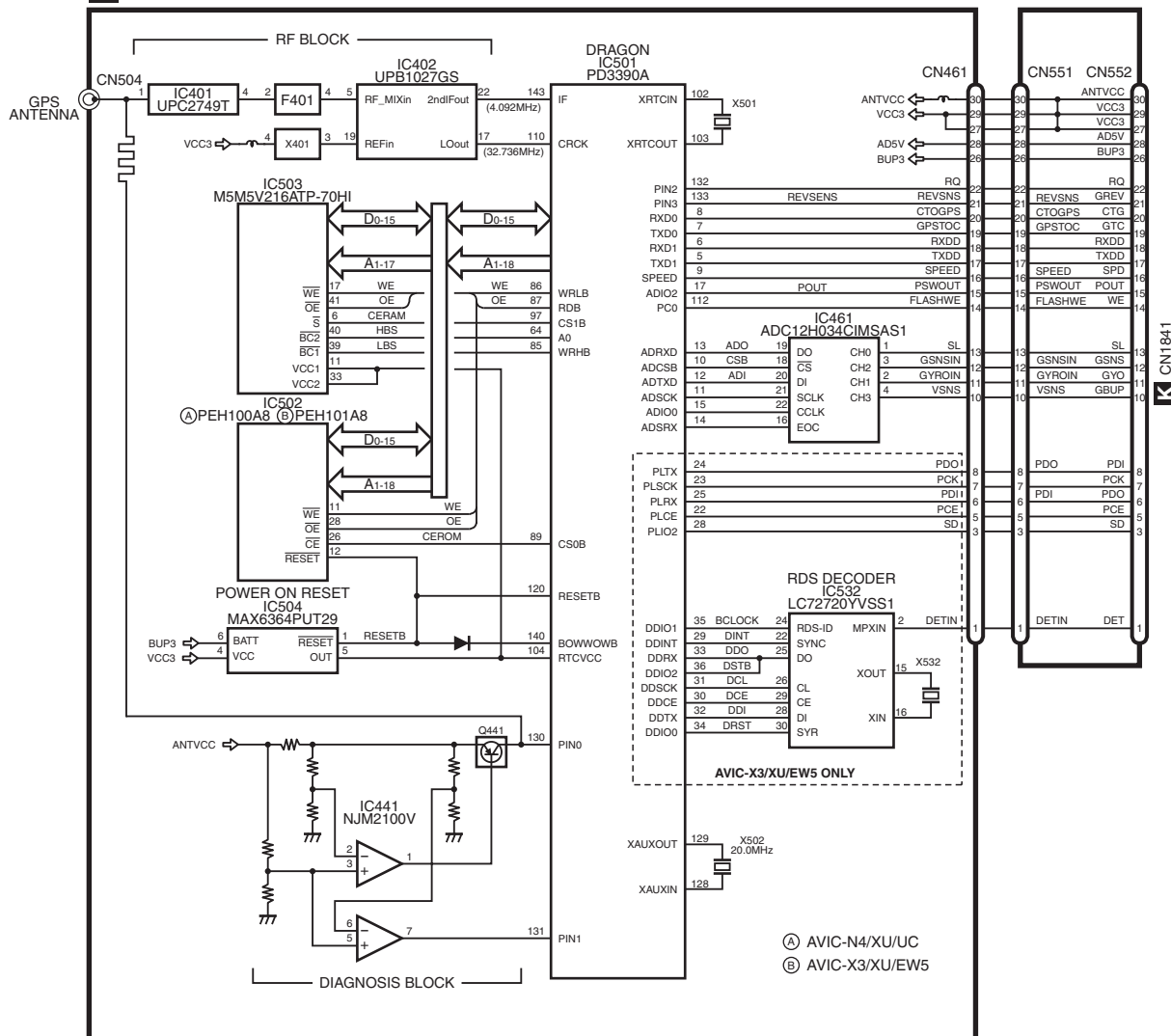
# D DVD CORE UNIT





**L** CONNECTOR  
PCB

A

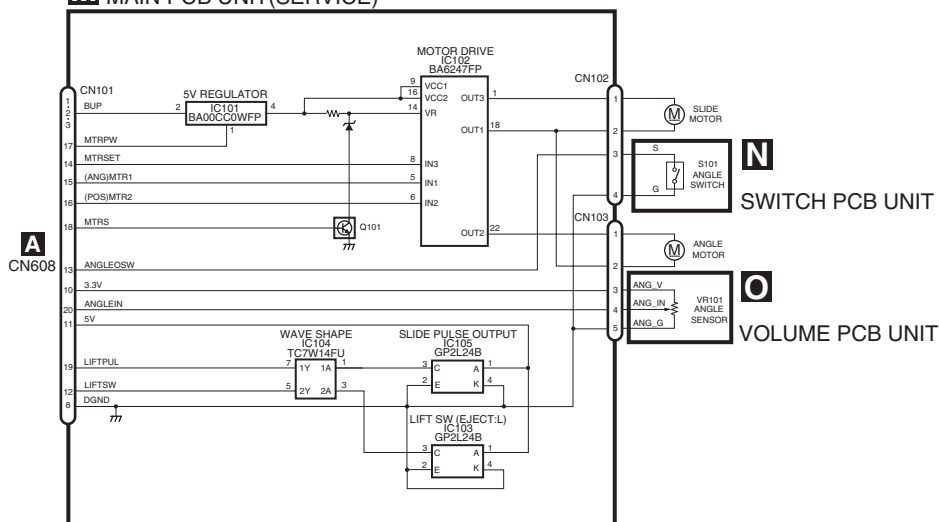


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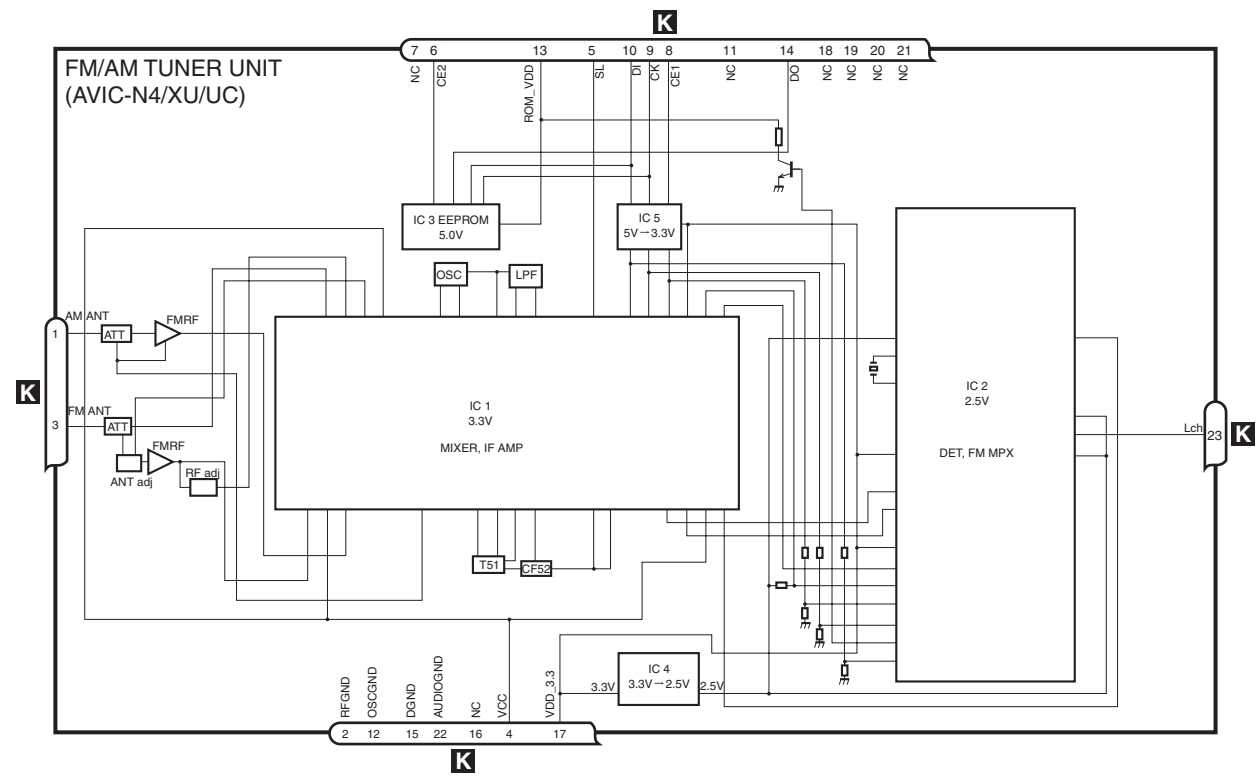
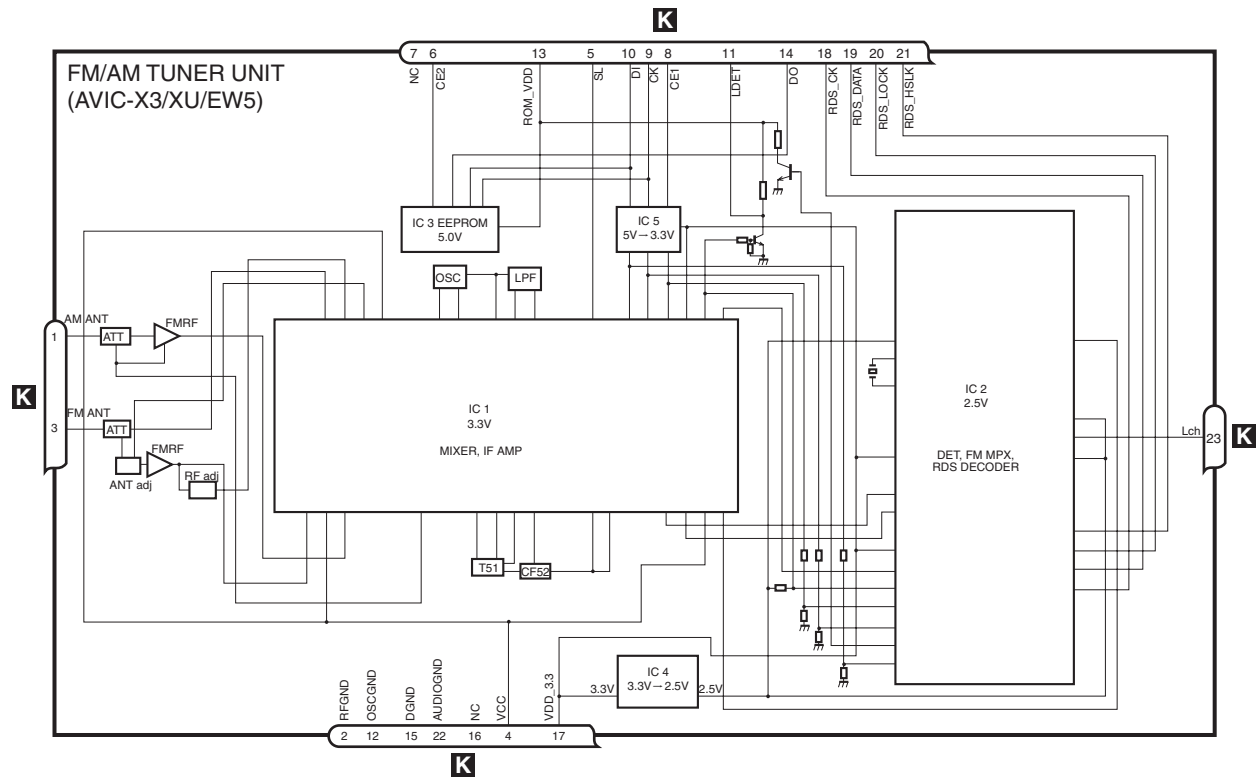
D

## **M** MAIN PCB UNIT(SERVICE)

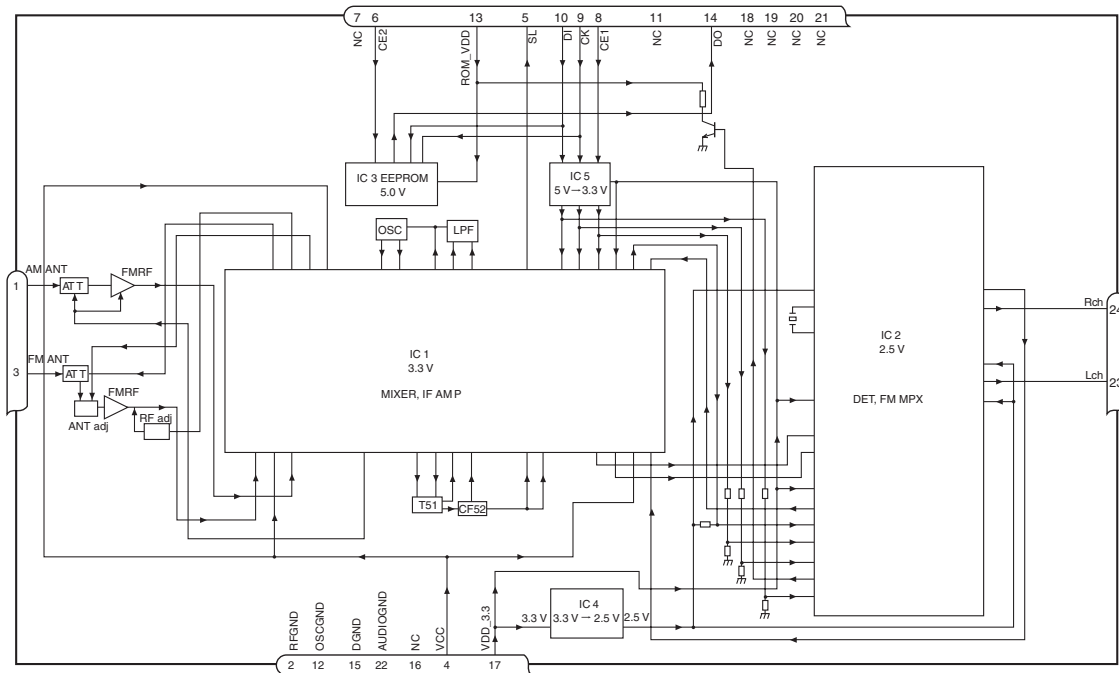


5

F



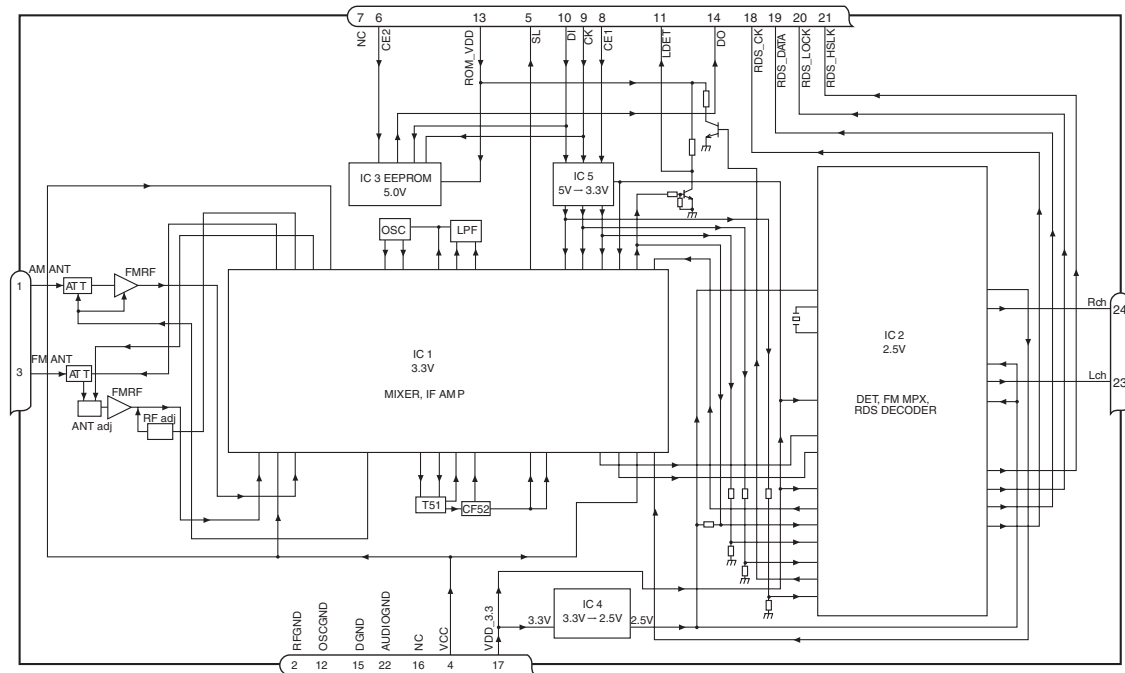
# FM/AM Tuner Unit (AVIC-N4/XU/UC)



No.	Symbol	I/O	Explain
1	AMANT	I	AM antenna input
2	RFGND		RF ground
3	FMANT	I	FM antenna input
4	VCC		power supply
5	SL	O	signal level
6	CE2	I	chip enable-2
7	NC		non connection
8	CE1	I	chip enable-1
9	CK	I	clock
10	DI	I	data in
11	NC		non connection
12	OSCGND		osc ground
13	ROM_VDD		power supply
14	DO	O	data out
15	DGND		digital ground
16	NC		non connection
17	VDD_3.3		power supply
18	NC		non connection
19	NC		non connection
20	NC		non connection
21	NC		non connection
22	AUDIOGND		audio ground
23	L ch	O	L channel output
24	R ch	O	R channel output



# ● FM/AM Tuner Unit (AVIC-X3/XU/EW5)



No.	Symbol	I/O	Explain
1	AMANT	I	AM antenna input
2	RFGND		RF ground
3	FMANT	I	FM antenna input
4	VCC		power supply
5	SL	O	signal level
6	CE2	I	chip enable-2
7	NC		non connection
8	CE1	I	chip enable-1
9	CK	I	clock
10	DI	I	data in
11	LDET	O	lock detector
12	OSCGND		osc ground
13	ROM_VDD		power supply
14	DO	O	data out
15	DGND		digital ground
16	NC		non connection
17	VDD_3.3		power supply
18	RDS_CK	O	RDS clock
19	RDS_DATA	O	RDS data
20	RDS_LOCK	O	RDS lock
21	RDS_HSLK	O	RDS high speed lock
22	AUDIOGND		audio ground
23	L ch	O	L channel output
24	R ch	O	R channel output

● LCD(CAW1950)

A

B

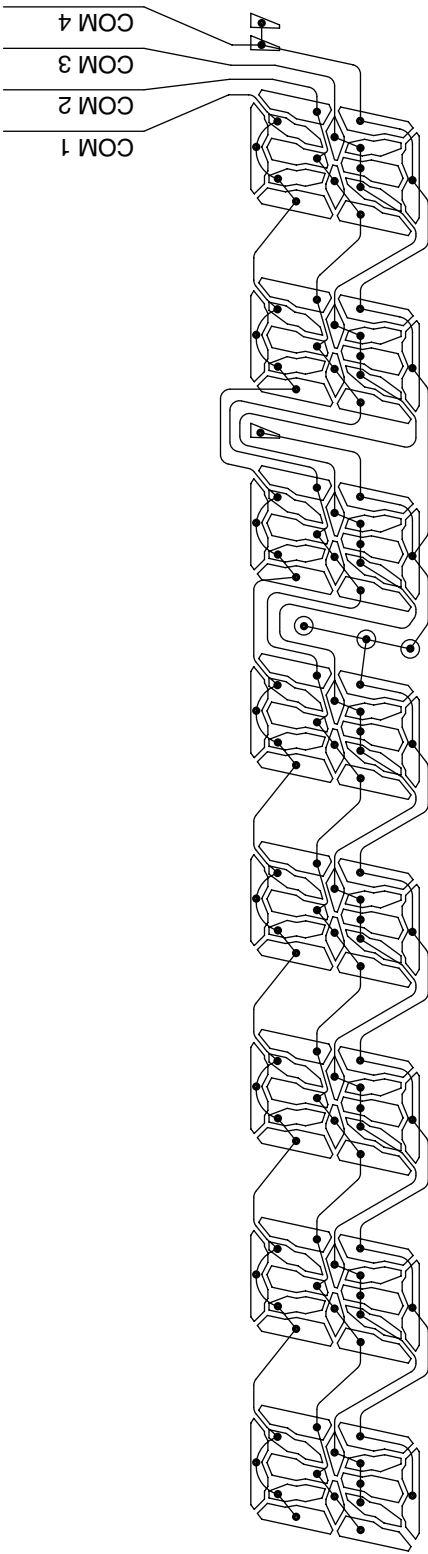
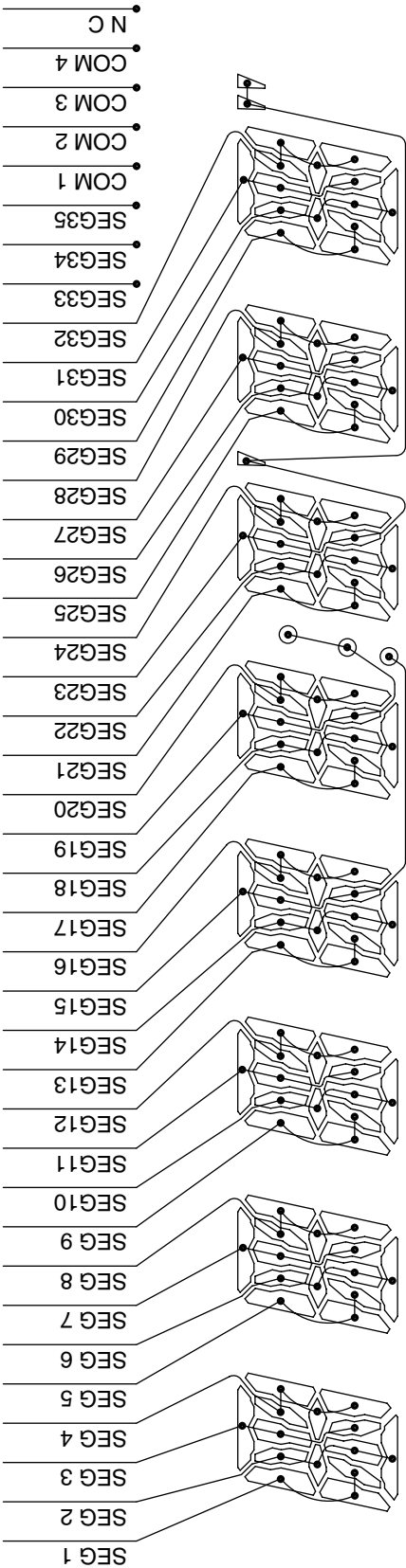
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SEGMENT



COMMON

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4.3 POWER BLOCK DIAGRAM

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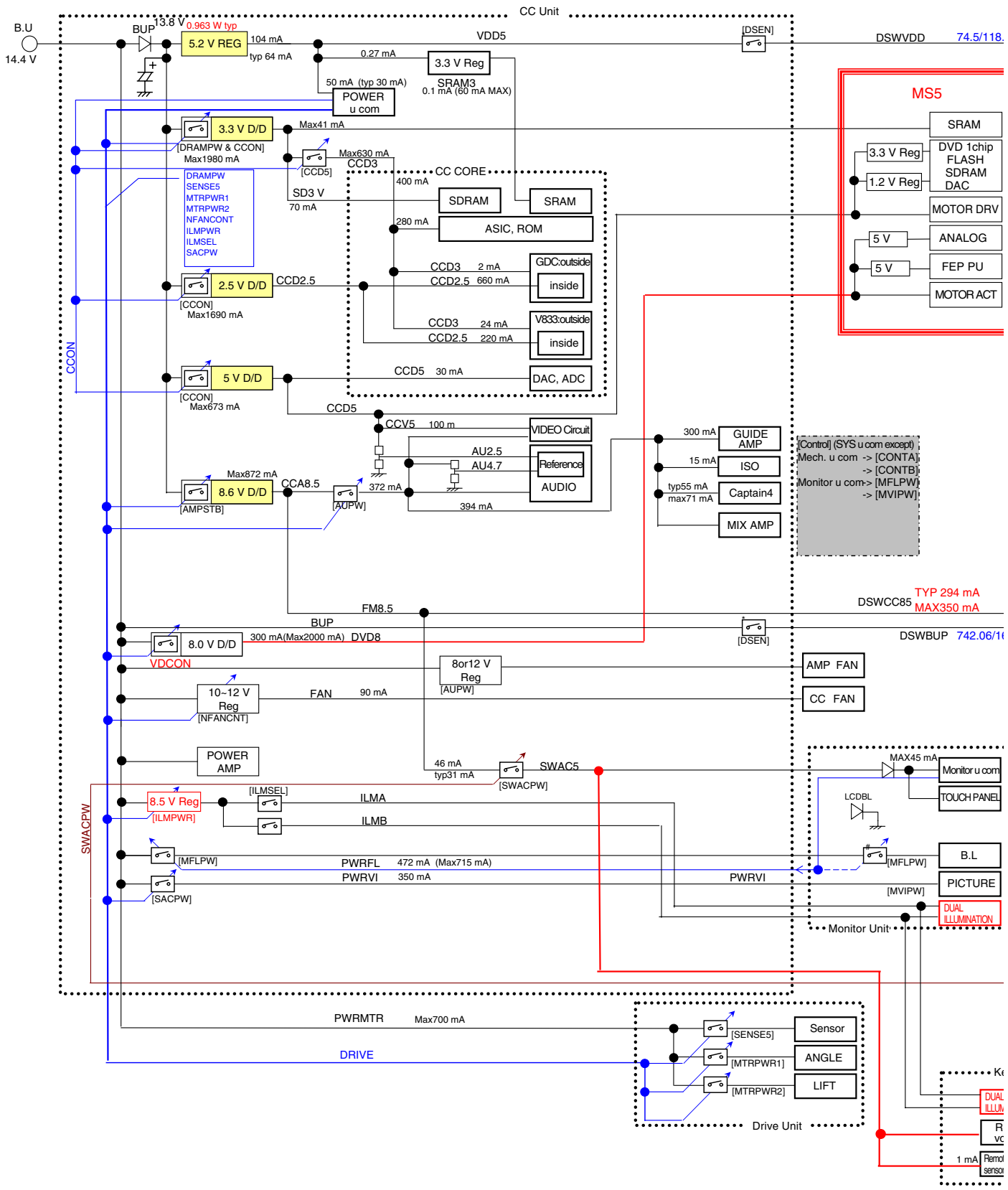
B

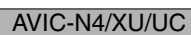
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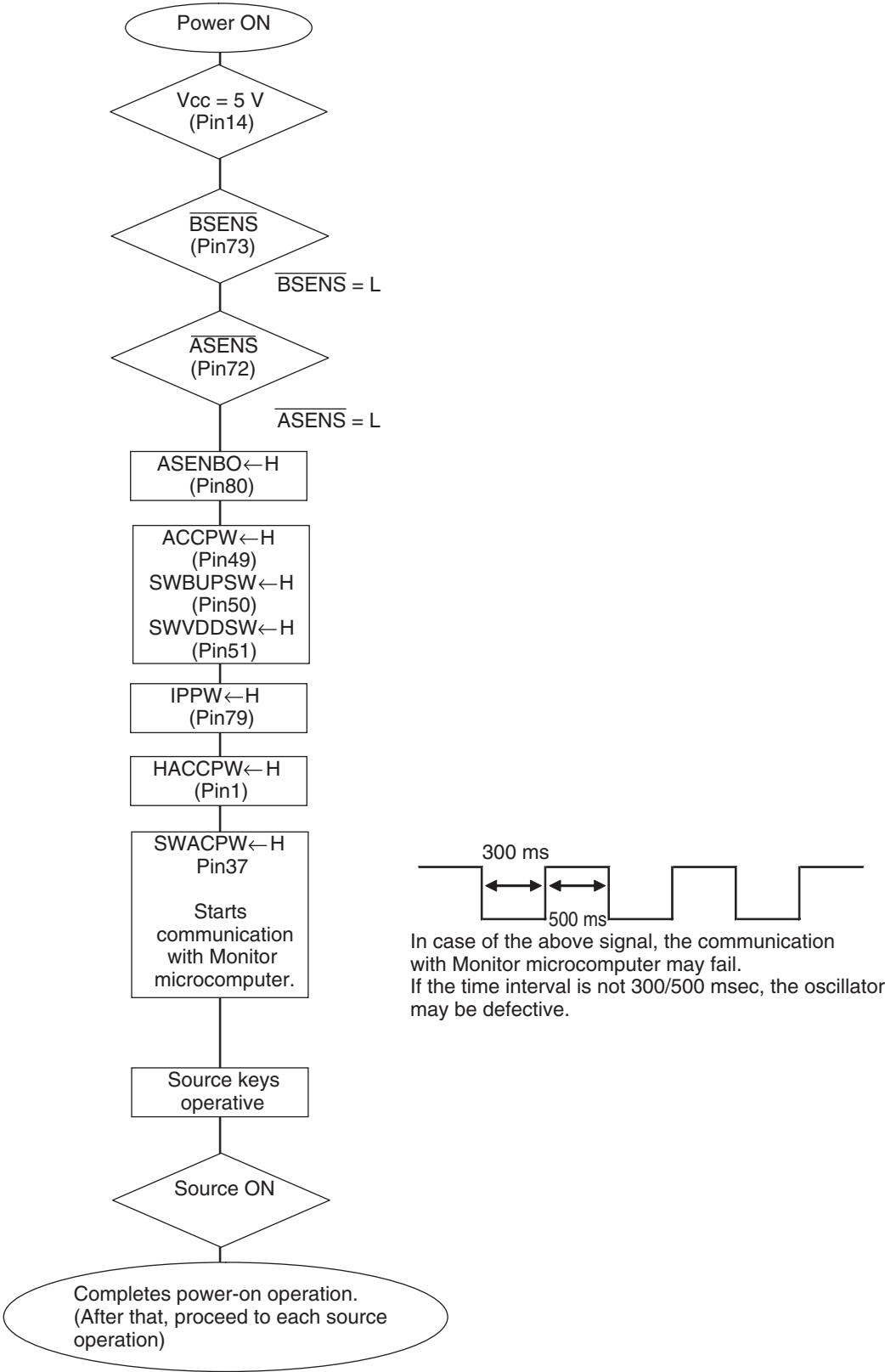
1234

5. DIAGNOSIS

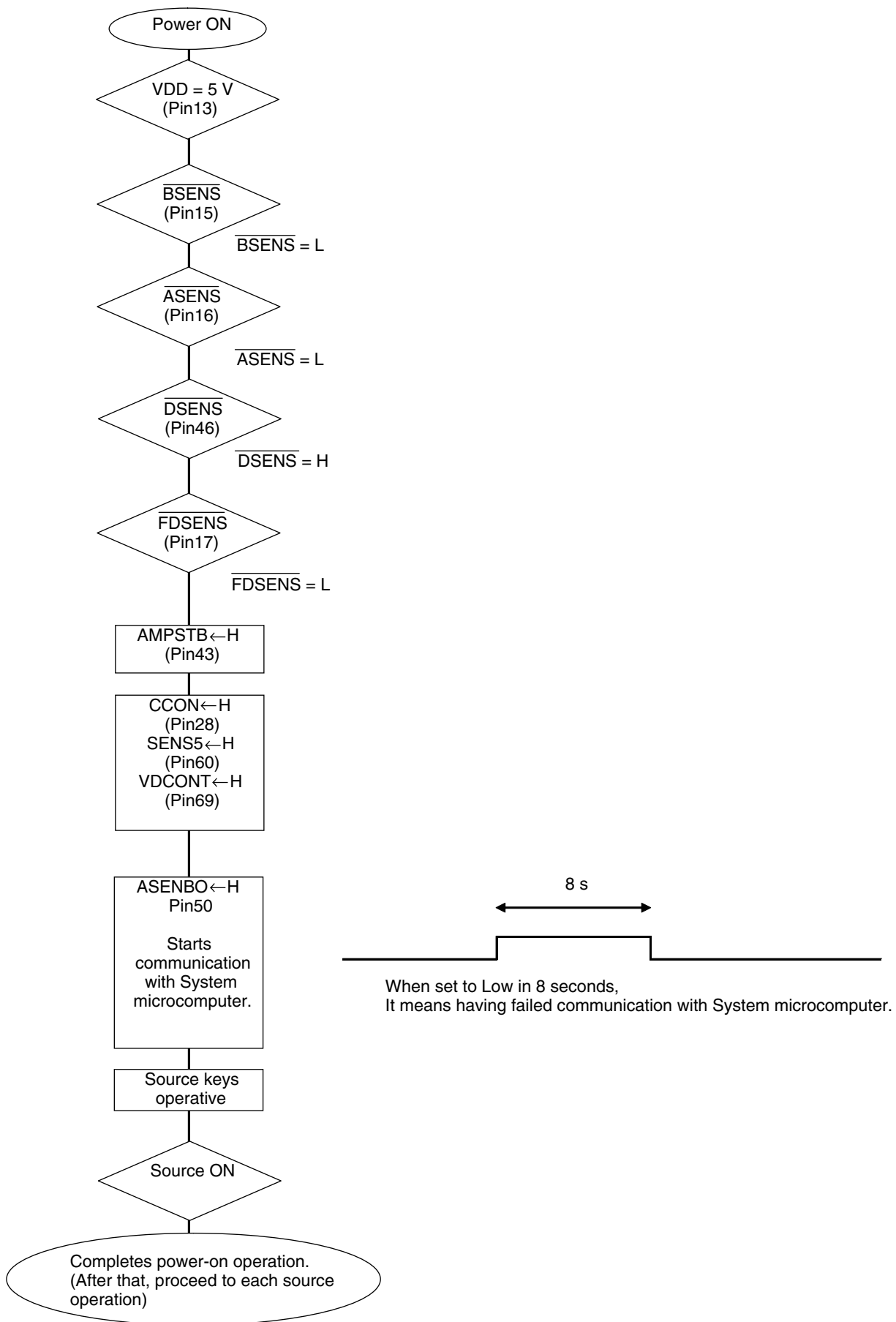
5.1 OPERATIONAL FLOWCHART

A

OPERATIONAL FLOW CHART(H/A UNIT SYSTEM MICROCOMPUTER)



OPERATIONAL FLOW CHART(NAVIGATION UNIT SYSTEM POWER MICROCOMPUTER)



# OPERATIONAL FLOW CHART(MONITOR MICROCOMPUTER)

A

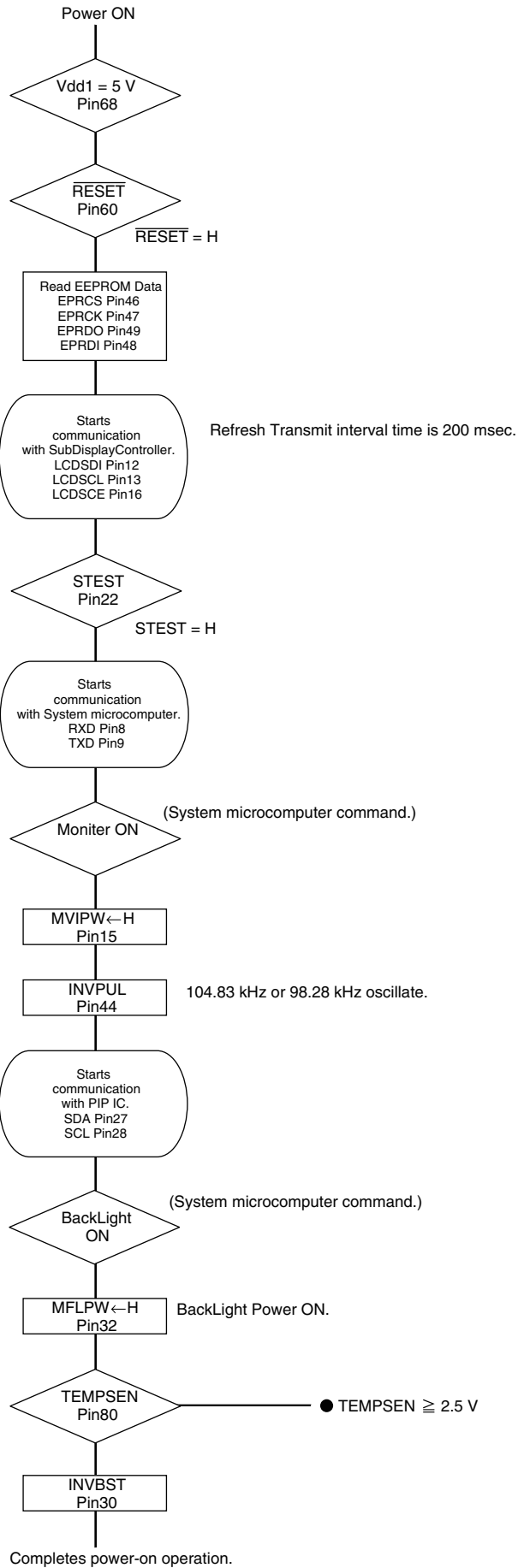
B

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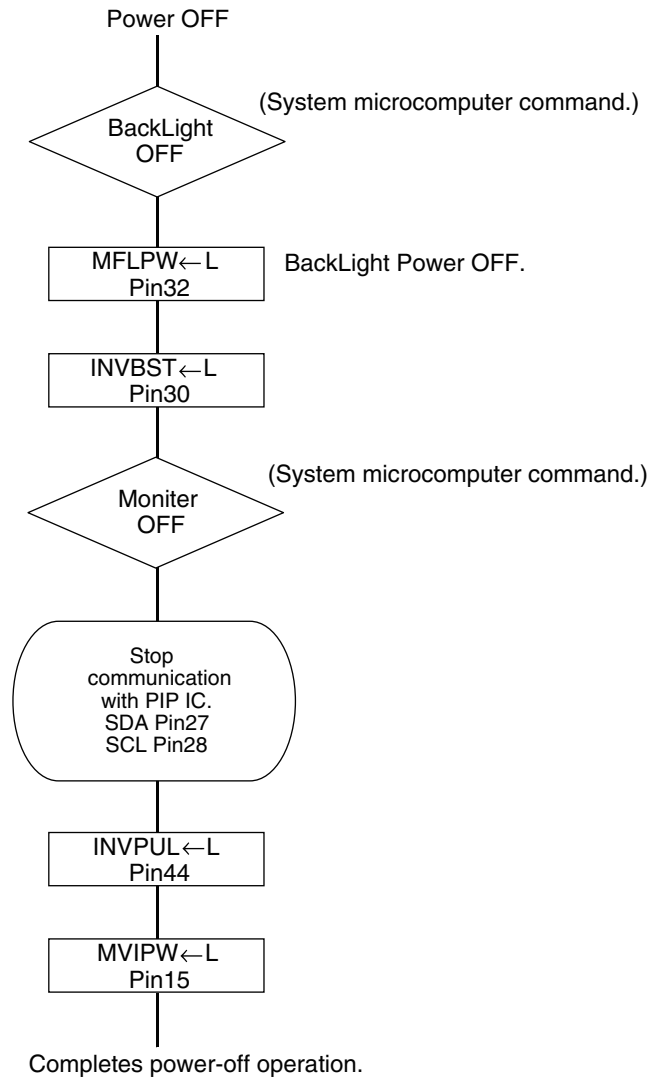
E

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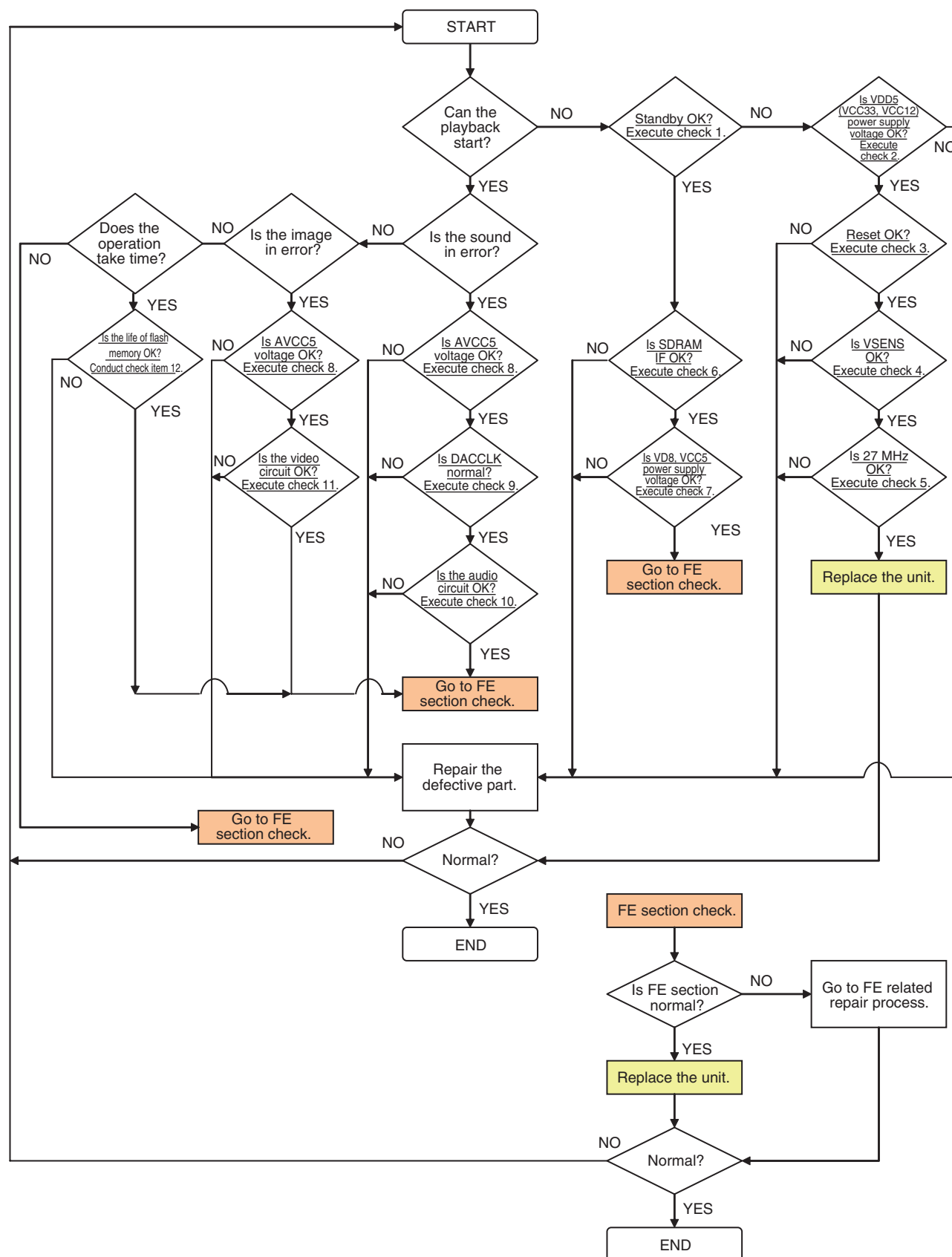


## OPERATIONAL FLOW CHART(MONITOR PowerOFF)



## 5.2 DIAGNOSIS FLOWCHART

### BACK END section flow



Check 1: Standby OK?

<Check> Check the voltage at the “STANBY” test point while the power is on.  
Use the “DGND1” test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	STANBY-DGND1	ALL	VCC33 V- 0.6 V or more	V

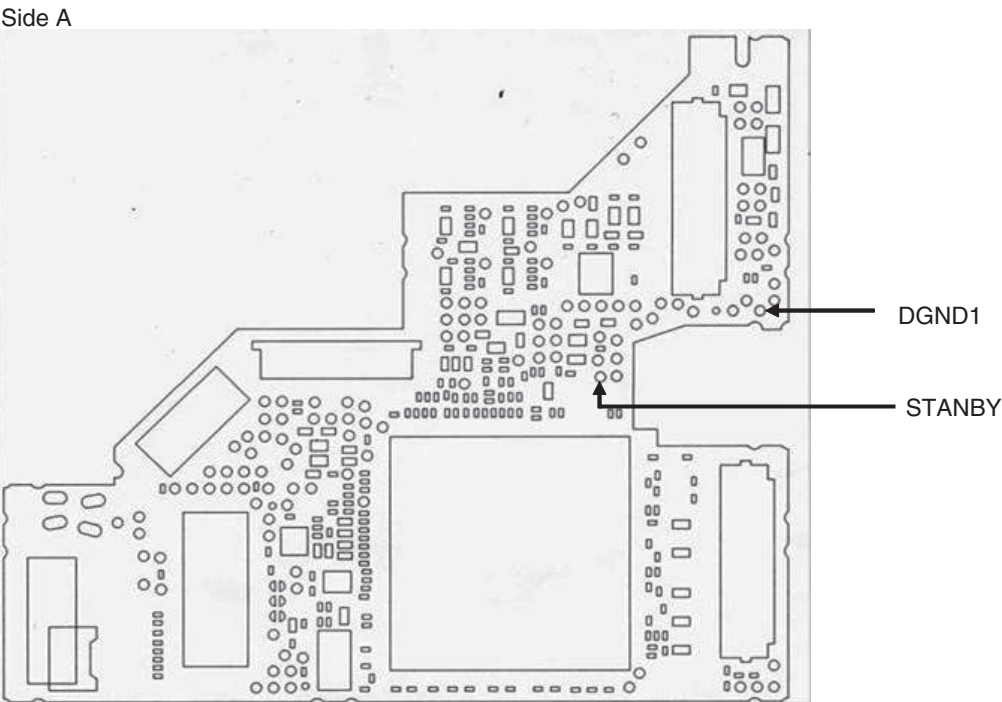


Fig 1.1: STANBY check point

## Check 2: Is VDD5 (VCC33, VCC12) power supply voltage OK?

A

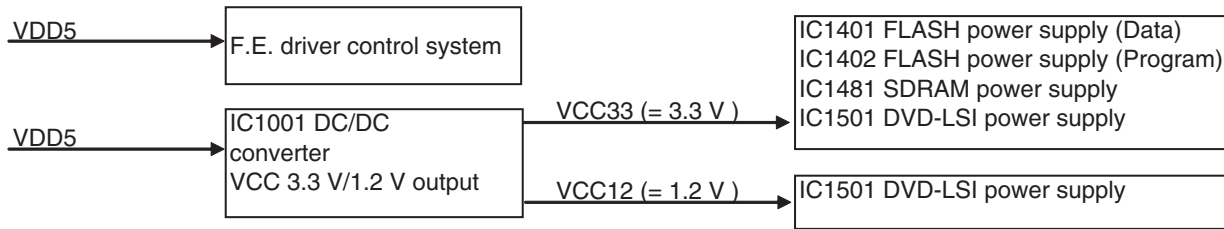


Fig 2.1: Power supply configuration

B

<Check> Check the voltage at the “VDD5\_3, VCC33\_3 and VCC12\_1” test point while the power is on.  
Use the “DGND1” test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	VDD5_3 - DGND1	ALL	$5.0 \pm 0.4$	V
2	VCC33_3 - DGND1	ALL	$3.3 \pm 0.15$	V
3	VCC12_1 - DGND1	ALL	$1.2 \pm 0.12$	V

C

Side A

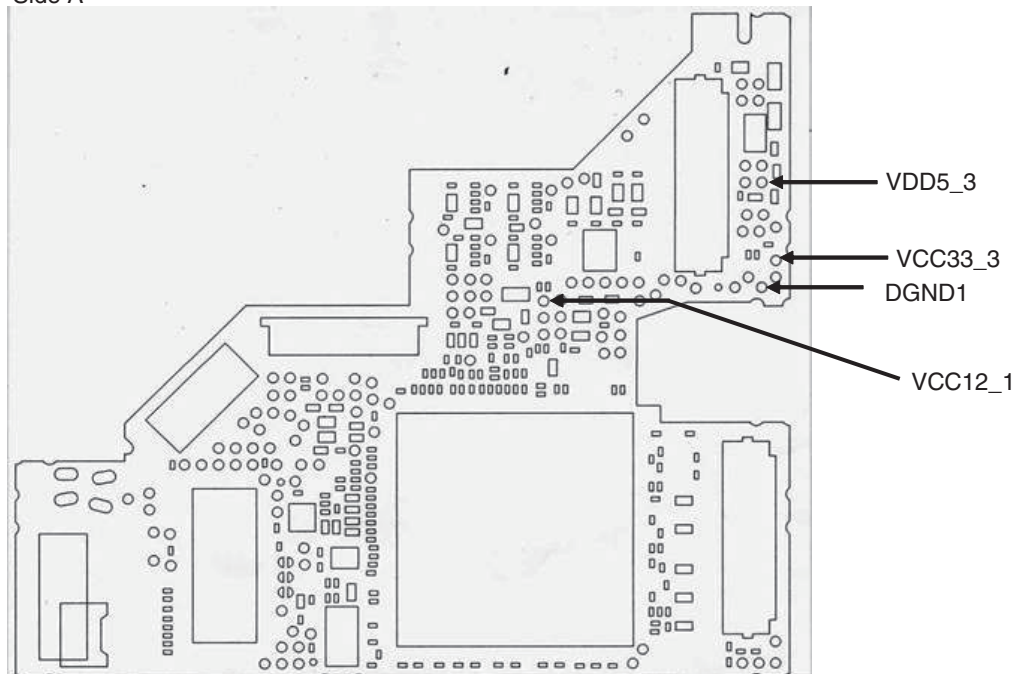


Fig 2.2: VDD5, VCC33, VCC12 voltage check points

F

Check 3: Reset OK?

<Check> Check the voltage at the “XRES” test point while the power is on.  
Use the “DGND1” test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	XRES-DGND1	ALL	VCC33 × 0.7 or more	V

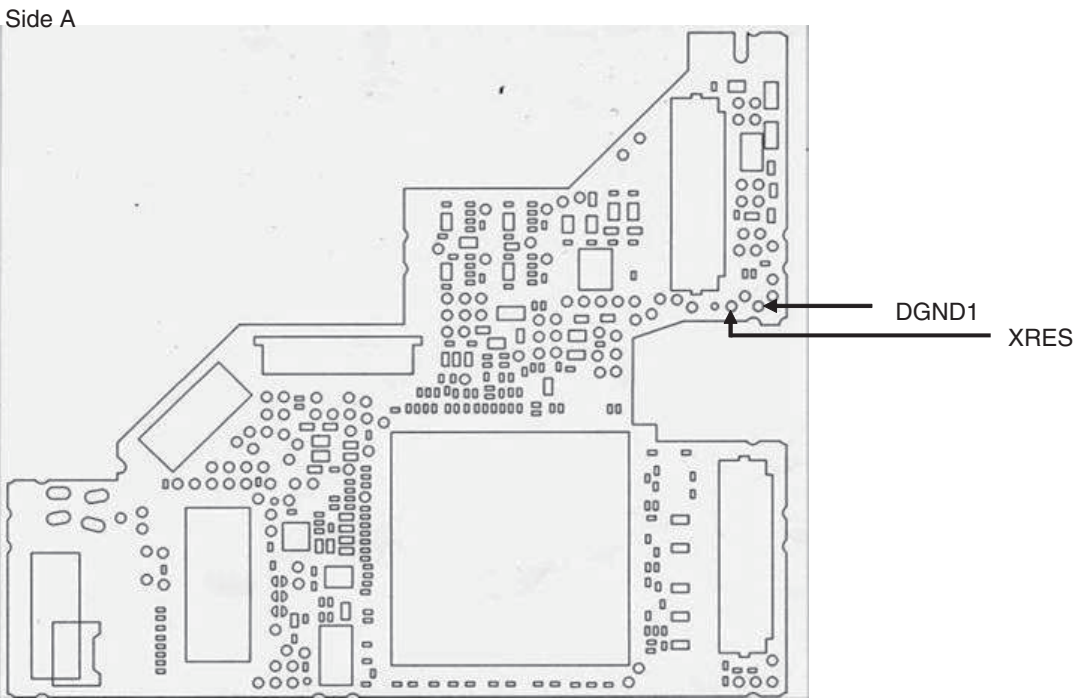
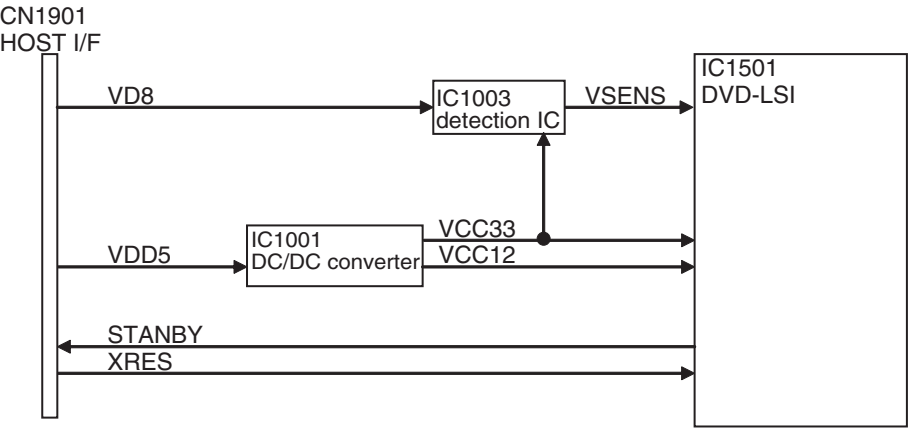


Fig 3.1: RESET check point

# Check 4: Is VSENS OK?

A



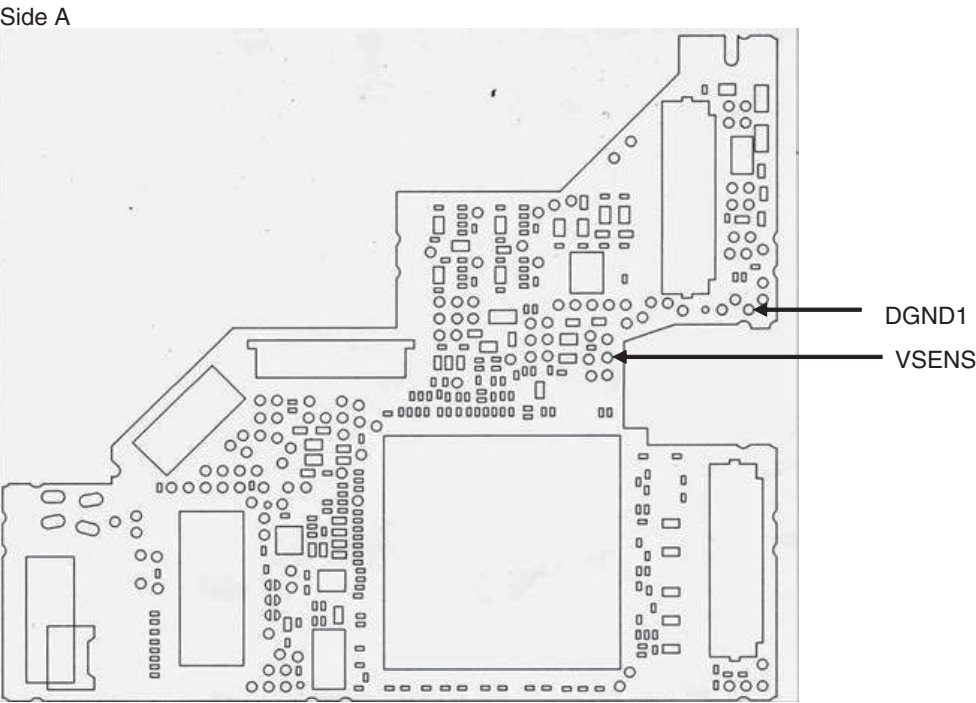
B

Fig 4.1: Power supply configuration and VSENS

<Check> Check the voltage at the “VSENS” test point while the power is on.  
Use the “DGND1” test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	VSENS - DGND1	ALL	$VCC33 \times 0.7$ or more	V

C



D

E

Fig 4.2: VSENS check point

F

## Check 5: 27 MHz Normal?

<Outline> Each clock is created inside the IC1501 using the 27 MHz master crystal oscillator (X1501).

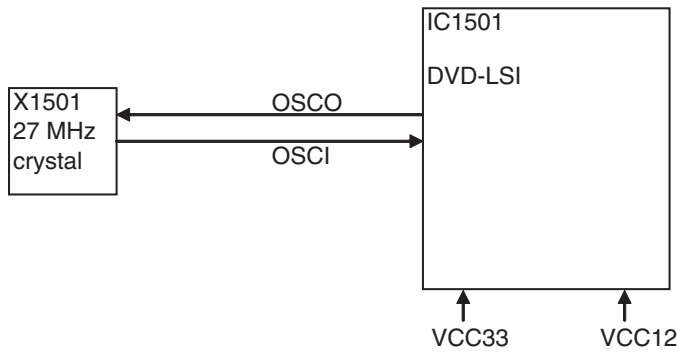
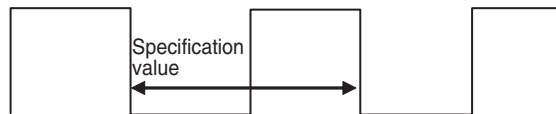


Fig 5.1: Clock configuration

<Check method> Turn the power on, and check with DGND being the reference.  
In case of NG, check the applicable line, periphery of IC1501, soldering of the peripheral components and defective components.

NO.	Check point	Module No.	Specification value	Unit
2	IC1501 169pin	ALL	27 MHz $\pm 50$ ppm	ppm



GND

Fig 5.2: Clock specification value

Side A

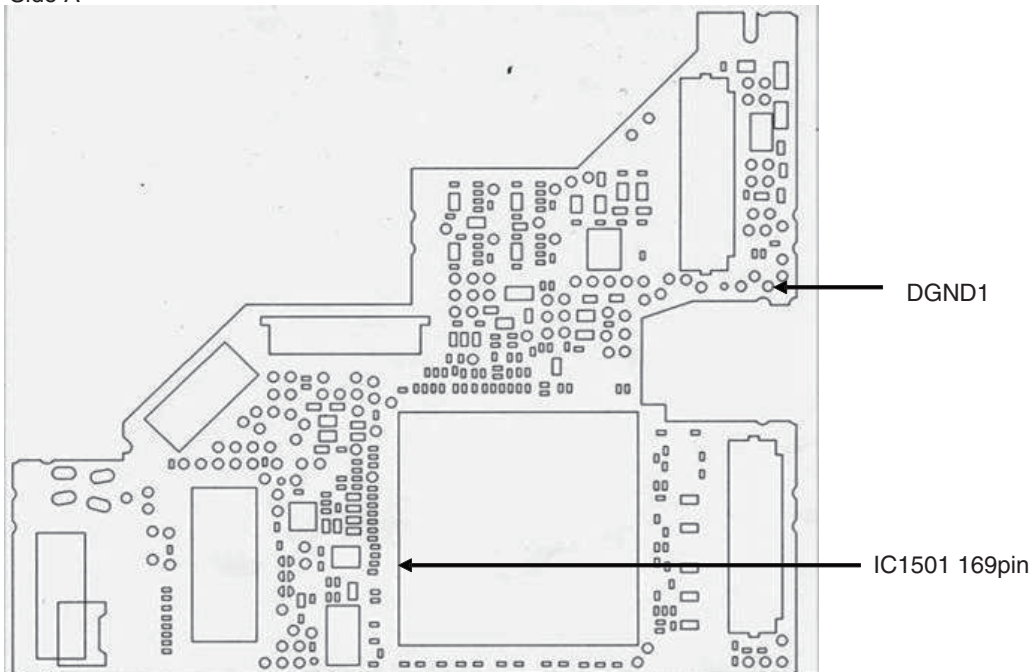
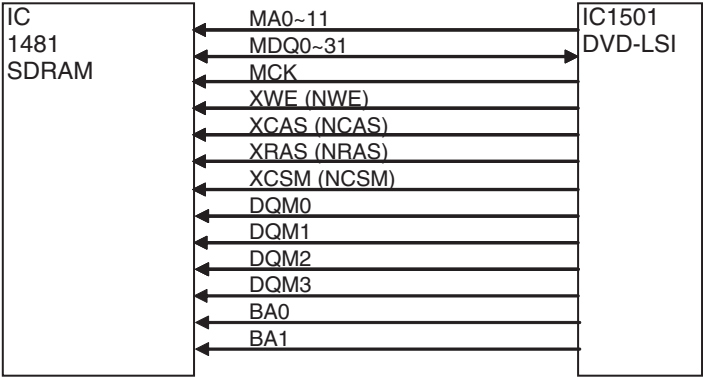


Fig 5.3: 27 MHz check point

Check 6: Is SDRAM I/F OK?

A

<Outline> In order to secure the MPEG stream data as the buffer,  
the capacity of communication I/F SDRAM between the LSI and the memory is 128Mbit.  
Be careful as XCSM, XWE, XCAS, XRAS and XSCM of IC1481 are called differently in IC1501,  
namely NCSM, NWE, NCAS, NRAS, NCSM.



B

Fig 6.1: SDRAM I/F

C

D

E

F



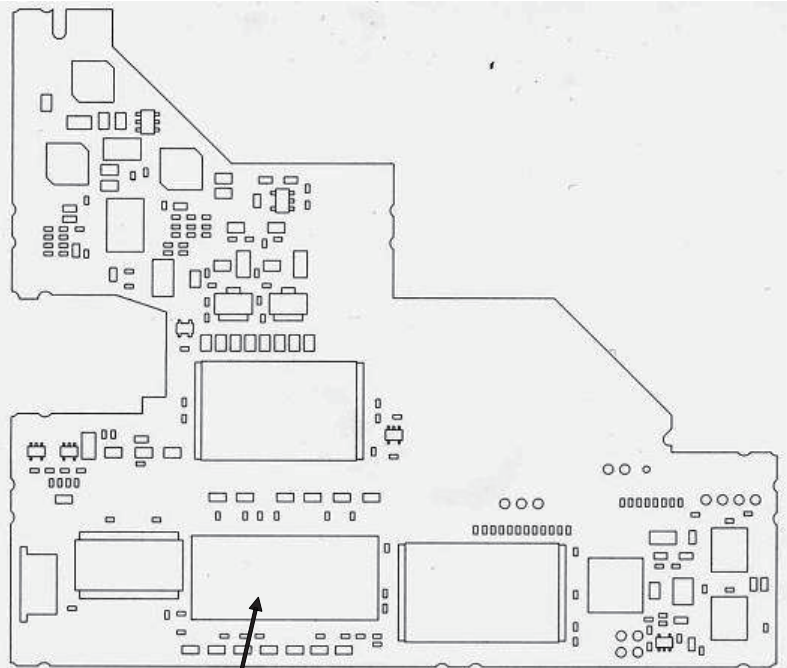
<Check> Check the conductivity at “check point 1” and “check point 2” without power.  
In case of NG, check the soldering and defective components throughout the  
“output → input” of the applicable section.

NO.	Signal name	Check point 1	Check point 2	Specification value
1	MA0	IC1481 25pin	IC1501 16pin	56 Ω ± 5 %
2	MA1	IC1481 26pin	IC1501 18pin	56 Ω ± 5 %
3	MA2	IC1481 27pin	IC1501 20pin	56 Ω ± 5 %
4	MA3	IC1481 60pin	IC1501 22pin	56 Ω ± 5 %
5	MA4	IC1481 61pin	IC1501 21pin	56 Ω ± 5 %
6	MA5	IC1481 62pin	IC1501 19pin	56 Ω ± 5 %
7	MA6	IC1481 63pin	IC1501 17pin	56 Ω ± 5 %
8	MA7	IC1481 64pin	IC1501 15pin	56 Ω ± 5 %
9	MA8	IC1481 65pin	IC1501 11pin	56 Ω ± 5 %
10	MA9	IC1481 66pin	IC1501 9pin	56 Ω ± 5 %
11	MA10	IC1481 24pin	IC1501 14pin	56 Ω ± 5 %
12	MA11	IC1481 21pin	IC1501 7pin	56 Ω ± 5 %
13	MDQ0	IC1481 2pin	IC1501 237pin	56 Ω ± 5 %
14	MDQ1	IC1481 4pin	IC1501 239pin	56 Ω ± 5 %
15	MDQ2	IC1481 5pin	IC1501 241pin	56 Ω ± 5 %
16	MDQ3	IC1481 7pin	IC1501 243pin	56 Ω ± 5 %
17	MDQ4	IC1481 8pin	IC1501 248pin	56 Ω ± 5 %
18	MDQ5	IC1481 10pin	IC1501 250pin	56 Ω ± 5 %
19	MDQ6	IC1481 11pin	IC1501 252pin	56 Ω ± 5 %
20	MDQ7	IC1481 13pin	IC1501 254pin	56 Ω ± 5 %
21	MDQ8	IC1481 74pin	IC1501 253pin	56 Ω ± 5 %
22	MDQ9	IC1481 76pin	IC1501 251pin	56 Ω ± 5 %
23	MDQ10	IC1481 77pin	IC1501 249pin	56 Ω ± 5 %
24	MDQ11	IC1481 79pin	IC1501 244pin	56 Ω ± 5 %
25	MDQ12	IC1481 80pin	IC1501 242pin	56 Ω ± 5 %
26	MDQ13	IC1481 82pin	IC1501 240pin	56 Ω ± 5 %
27	MDQ14	IC1481 83pin	IC1501 238pin	56 Ω ± 5 %
28	MDQ15	IC1481 85pin	IC1501 236pin	56 Ω ± 5 %
29	MDQ16	IC1481 31pin	IC1501 29pin	56 Ω ± 5 %
30	MDQ17	IC1481 33pin	IC1501 31pin	56 Ω ± 5 %
31	MDQ18	IC1481 34pin	IC1501 33pin	56 Ω ± 5 %
32	MDQ19	IC1481 36pin	IC1501 37pin	56 Ω ± 5 %
33	MDQ20	IC1481 37pin	IC1501 39pin	56 Ω ± 5 %
34	MDQ21	IC1481 39pin	IC1501 41pin	56 Ω ± 5 %
35	MDQ22	IC1481 40pin	IC1501 43pin	56 Ω ± 5 %
36	MDQ23	IC1481 42pin	IC1501 45pin	56 Ω ± 5 %
37	MDQ24	IC1481 45pin	IC1501 44pin	56 Ω ± 5 %
38	MDQ25	IC1481 47pin	IC1501 42pin	56 Ω ± 5 %
39	MDQ26	IC1481 48pin	IC1501 40pin	56 Ω ± 5 %
40	MDQ27	IC1481 50pin	IC1501 38pin	56 Ω ± 5 %
41	MDQ28	IC1481 51pin	IC1501 34pin	56 Ω ± 5 %
42	MDQ29	IC1481 53pin	IC1501 32pin	56 Ω ± 5 %
43	MDQ30	IC1481 54pin	IC1501 30pin	56 Ω ± 5 %
44	MDQ31	IC1481 56pin	IC1501 28pin	56 Ω ± 5 %
45	MCK	IC1481 68pin	IC1501 234pin	0.17 Ω ± or lower
46	XWE	IC1481 17pin	IC1501 3pin	56 Ω ± 5 %
47	XCAS	IC1481 18pin	IC1501 4pin	56 Ω ± 5 %
48	XRAS	IC1481 19pin	IC1501 5pin	56 Ω ± 5 %
49	XCSM	IC1481 20pin	IC1501 6pin	56 Ω ± 5 %
50	DQM0	IC1481 16pin	IC1501 255pin	56 Ω ± 5 %
51	DQM1	IC1481 71pin	IC1501 256pin	56 Ω ± 5 %
52	DQM2	IC1481 28pin	IC1501 26pin	56 Ω ± 5 %
53	DQM3	IC1481 59pin	IC1501 27pin	56 Ω ± 5 %
54	BA0	IC1481 22pin	IC1501 8pin	56 Ω ± 5 %
55	BA1	IC1481 23pin	IC1501 10pin	56 Ω ± 5 %

Side B

A

B



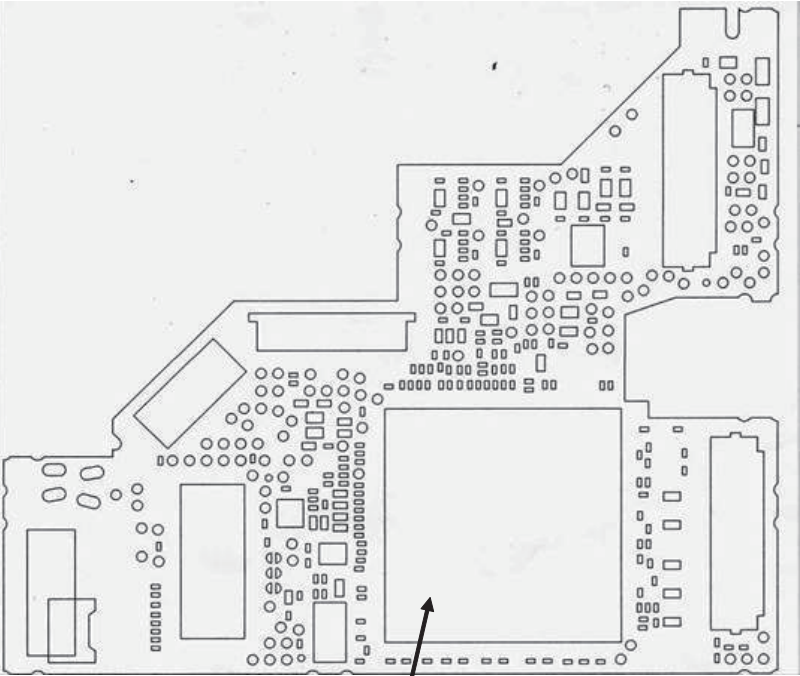
Check point 1 (IC1481)

C

Side A

D

E



Check point 2 (IC1501)

Fig 6.2: SDRAM I/F check point

F

Check 7: Is VD8, VCC5 power supply voltage OK?

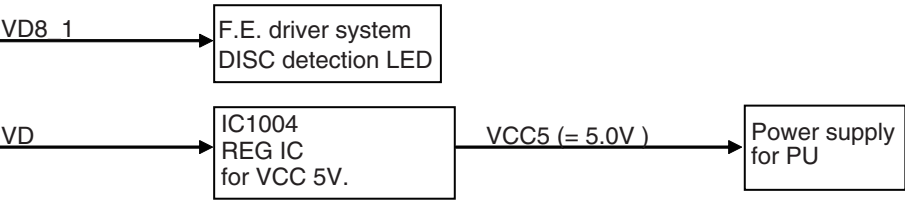


Fig 7.1: Power supply configuration

<Check> Check the voltage at the “VD8\_1, VD and VCC5\_1” test point while the power is on.  
Use the “PGND3 and AGND1” test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	VD8_1 - PGND3	ALL	8.0 ± 0.4	V
2	VD - PGND3	ALL	8.0 ± 0.4	V
3	VCC5_1- AGND1	ALL	5.0 ± 0.1	V

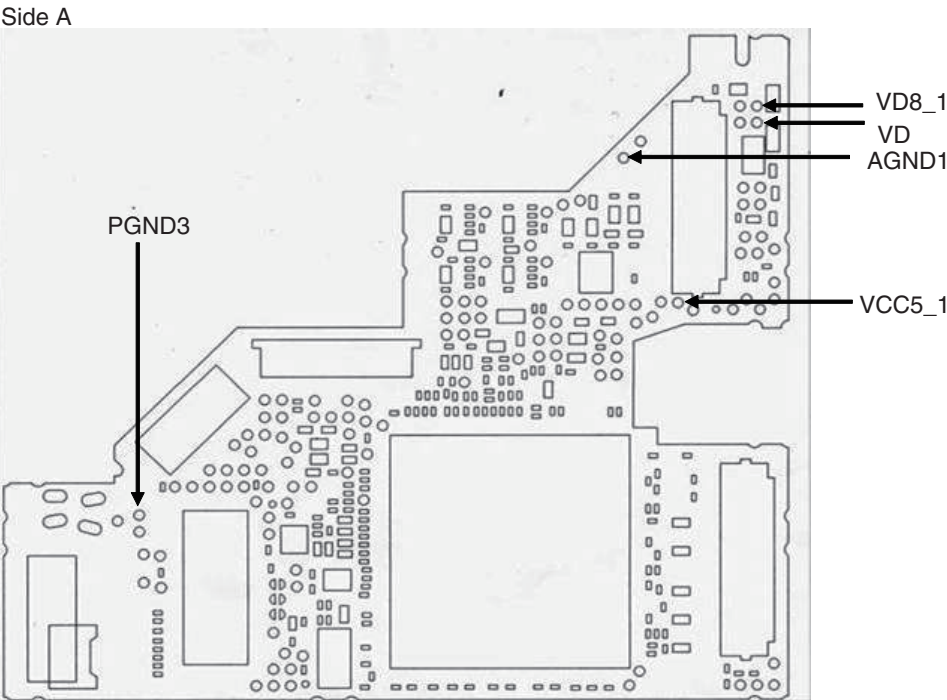


Fig 7.2: VD8, VCC5 voltage check points

Check 8: Is AVCC5 voltage OK?

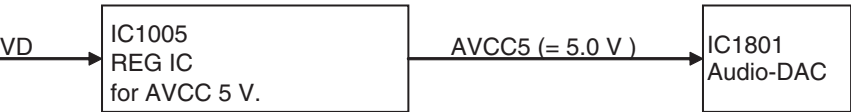


Fig 8.1: Power supply configuration

<Check> Playback DVD-REF-A1 TITLE 1 and check the voltage at the stylus.  
Check with PGND and GNDAU being the reference.

NO.	Check point	Module No.	Specification value	Unit
1	VD - PGND_3	ALL	8.0 ± 0.4	V
2	AVCC5 - GNDAU1	ALL	5.0 ± 0.1	V

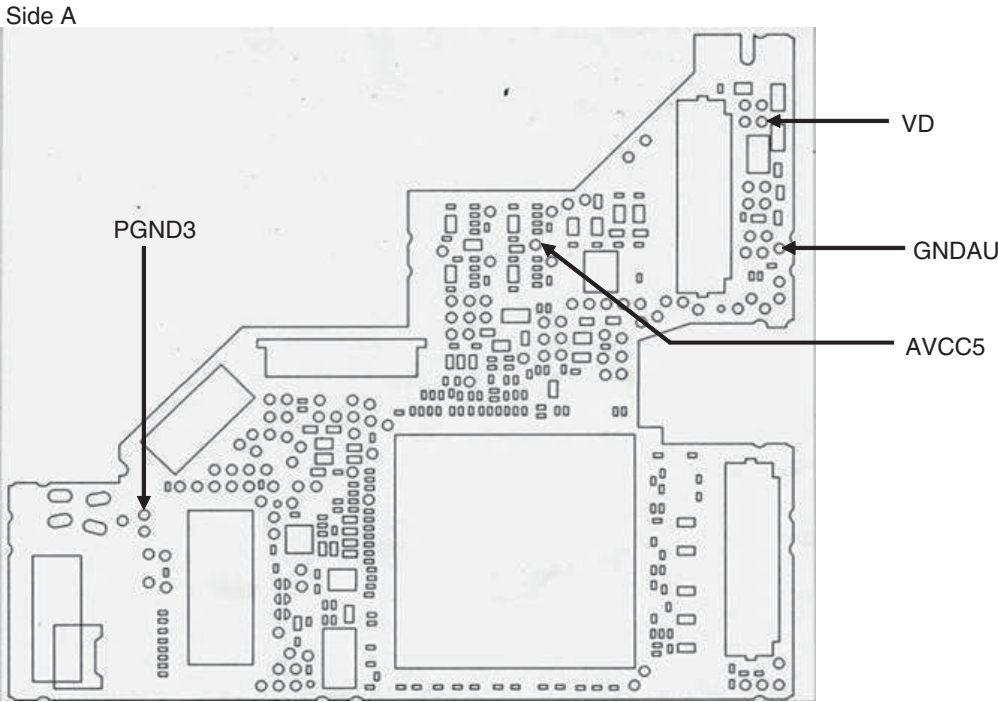


Fig 8.2: VD8, AVCC5 voltage check points

## Check 9: Is DACCLK normal?

<Outline> DACCLK for Audio-DAC is created by IC1501 using the 27 MHz master crystal oscillator (X1501).

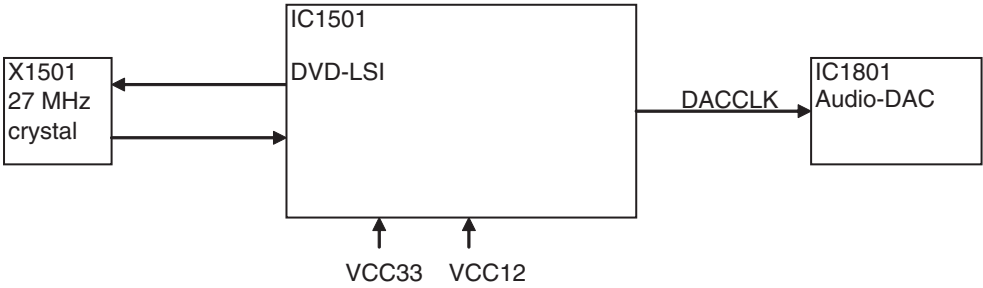


Fig 9.1: Clock configuration

<Check method>

DVD: DVD-REF-A1 TITLE 1

CD: Playback a normal CDDA.

Common to all DVD-V compatible modules.

Check with DGND being the reference.

In case of NG, check the applicable line, the periphery of IC1501, soldering of the peripheral components and defective components.

NO.	Check point 1 (stylus)	Media	Specification value 1	Specification value 2	Specification value 3
1	DACCK	DVD	2.0 V~VCC33 V	DGND~0.8 V	36.8640 MHz±300 ppm
2	DACCK	CD	2.0 V~VCC33 V	DGND~0.8 V	33.8688 MHz±300 ppm

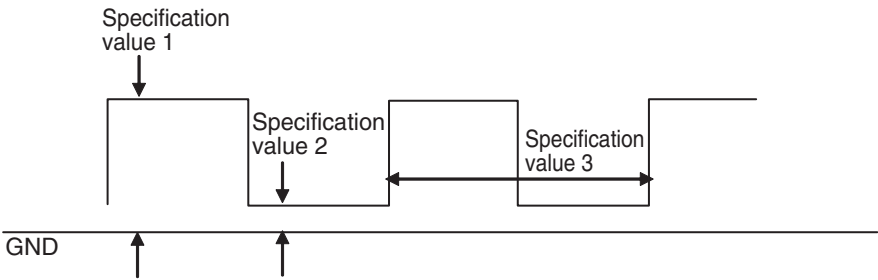


Fig 9.2: Clock specification value

Side A

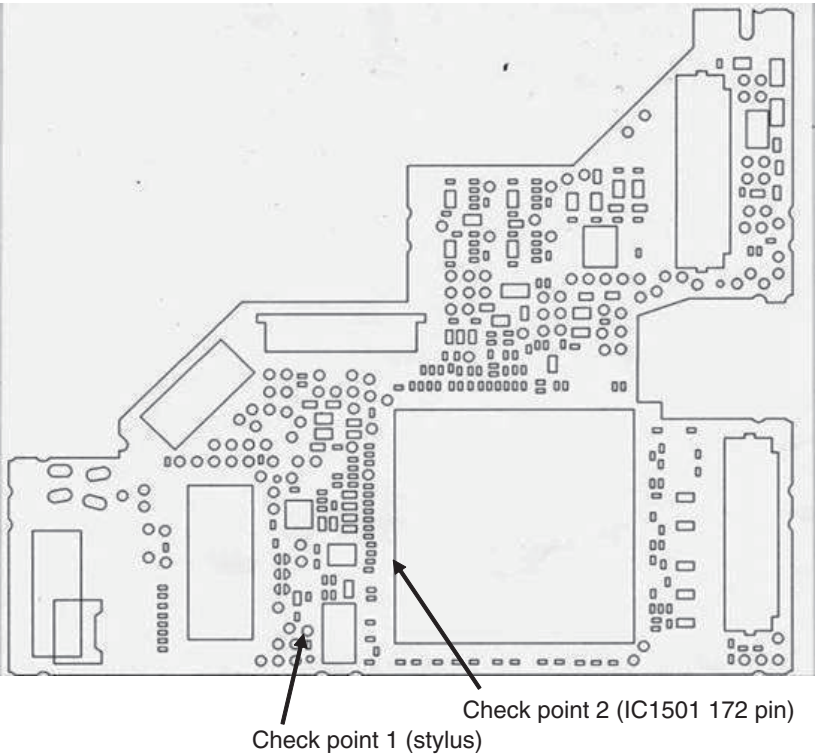


Fig 9.3: 27 MHz, DACCLK check point

## Check 10: Is the audio circuit OK?

<Outline> The serial 3 lines digital output + DACCLK, output from DVD-LSI (IC1501), are converted to analog audio signal at Audio-DAC (IC1801) and are output from the HOST I/F (CN1901).  
Simultaneously, the analog MUTE signal is also output from DVD-LSI (IC1501) via the HOST I/F.  
The digital audio signal (IECOUT), output from DVD-LSI (IC1501), is output via CN1852.

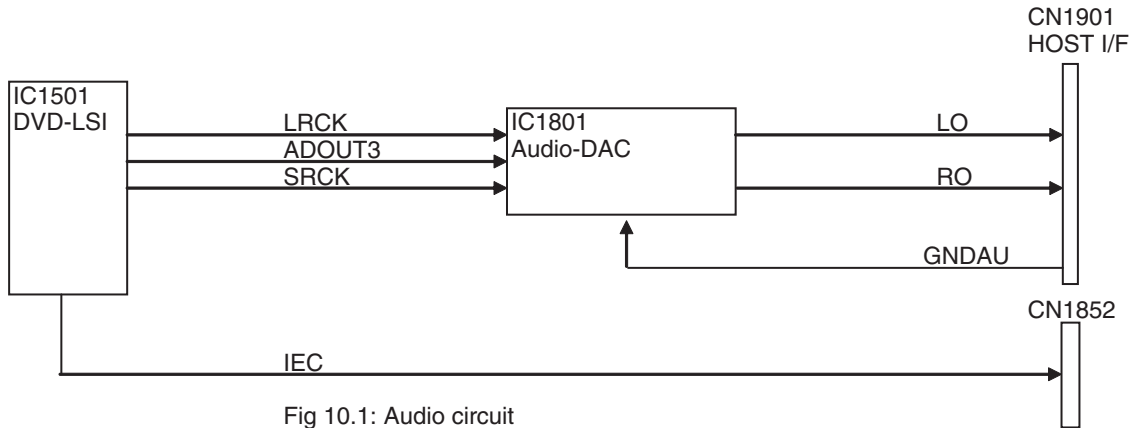


Fig 10.1: Audio circuit

<Check method> Playback DVD-REF-A1 TITLE 2 CHAPTER 1 (48 k/16 bit 1 kHz 0 dB), and check with DGND being the reference.  
In case of NG, check the applicable line, periphery of major components as described in the above drawing, soldering of the peripheral components and defective components.

NO.	Check point 1 (stylus)	Specification value 1	Specification value 2	Reference waveform
1	ADOUT3	VCC33 V-0.6 V or higher	0.4 V or lower	Waveform 1
2	SRCK	VCC33 V-0.6 V or higher	0.4 V or lower	Waveform 2
3	LRCK	VCC33 V-0.6 V or higher	0.4 V or lower	Waveform 3

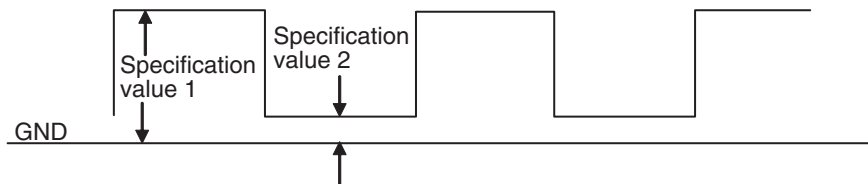


Fig 10.2: Serial 3 lines specification value

Side A

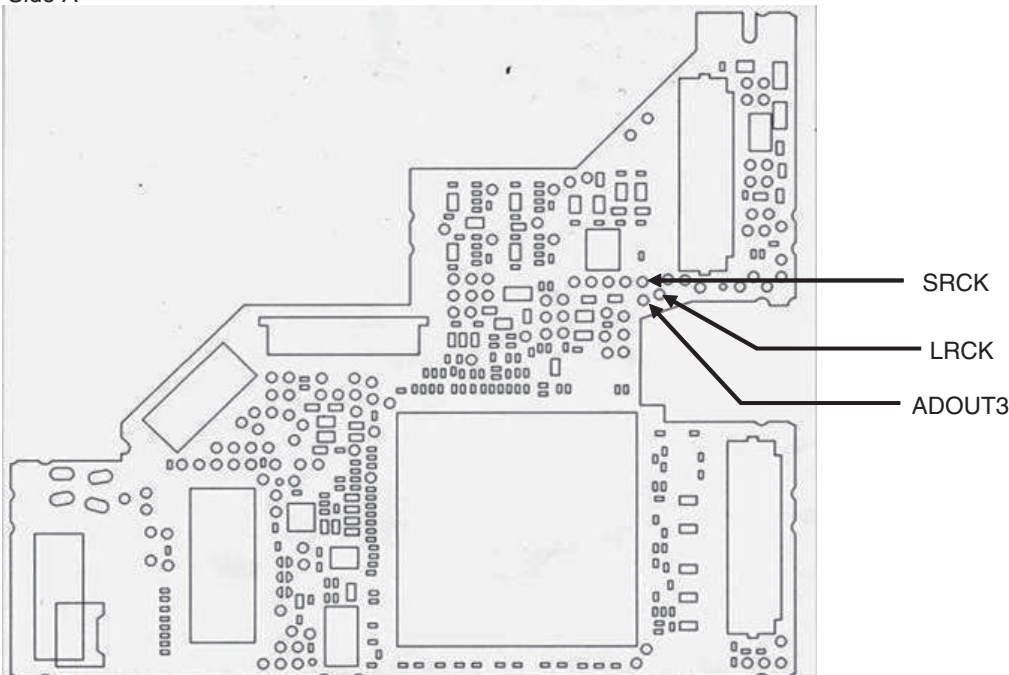


Fig 10.3: Serial 3 lines check points



The following checks shall be conducted using the following measurement circuits with GNDAU1 being the reference.

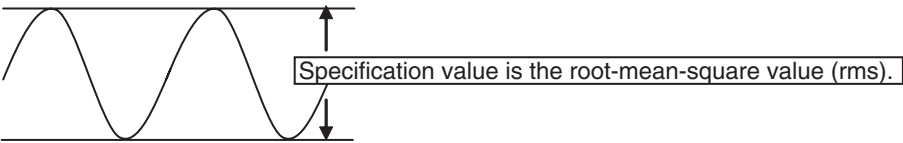
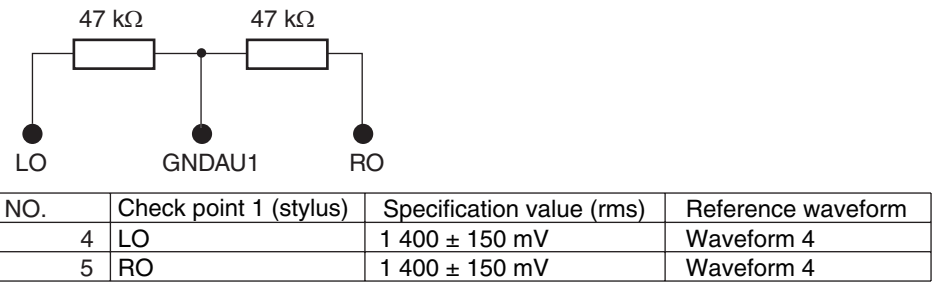


Fig 10.4: Analog audio out (LO, RO) specification value.

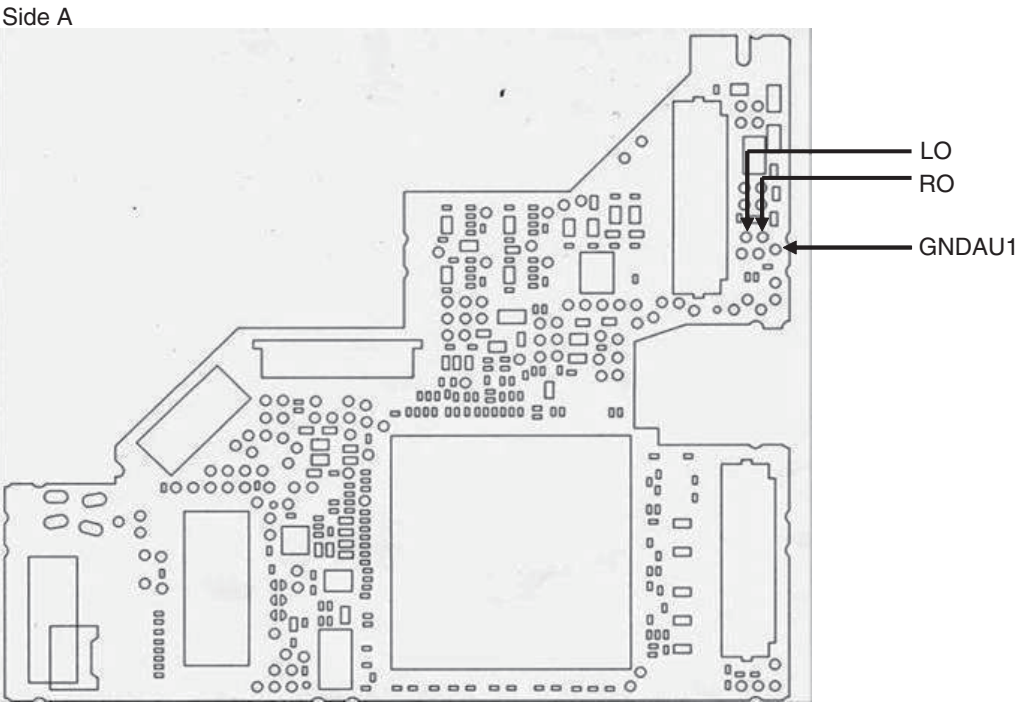


Fig 10.5: Analog audio out check point

Check with DGND being the reference.  
Check 2pin cord after connecting it to a jig, etc.

A

NO.	Check point 1 (stylus)	Specification value 1	Specification value 2	Reference waveform
6	IEC	VCC33 V-0.6 V or higher	0.4 V or lower	Waveform 5

Side A

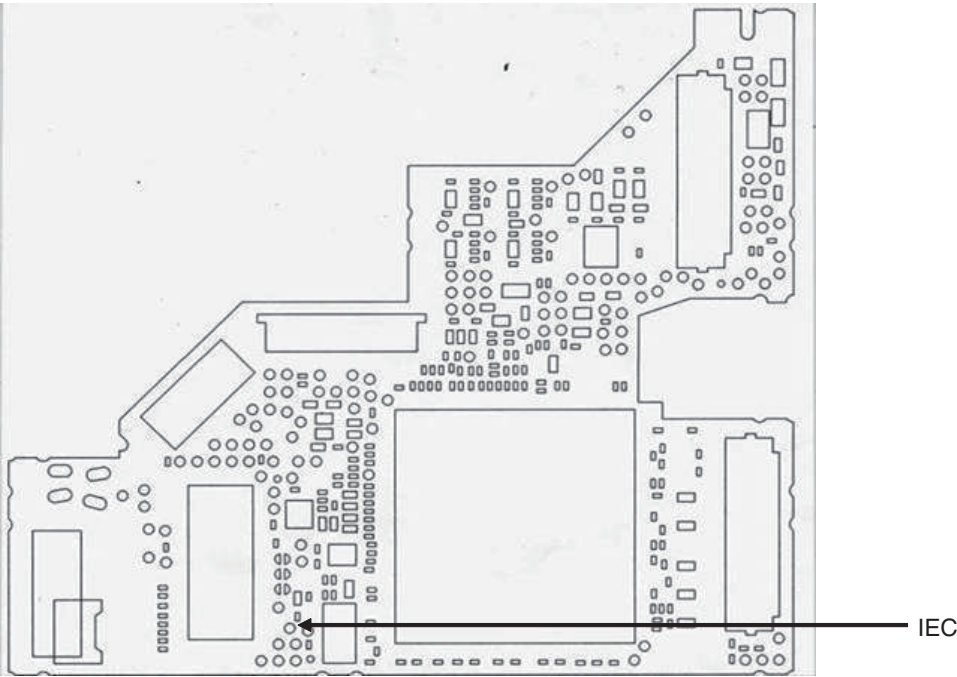


Fig 10.6: Digital audio signal (IECOUT) check point

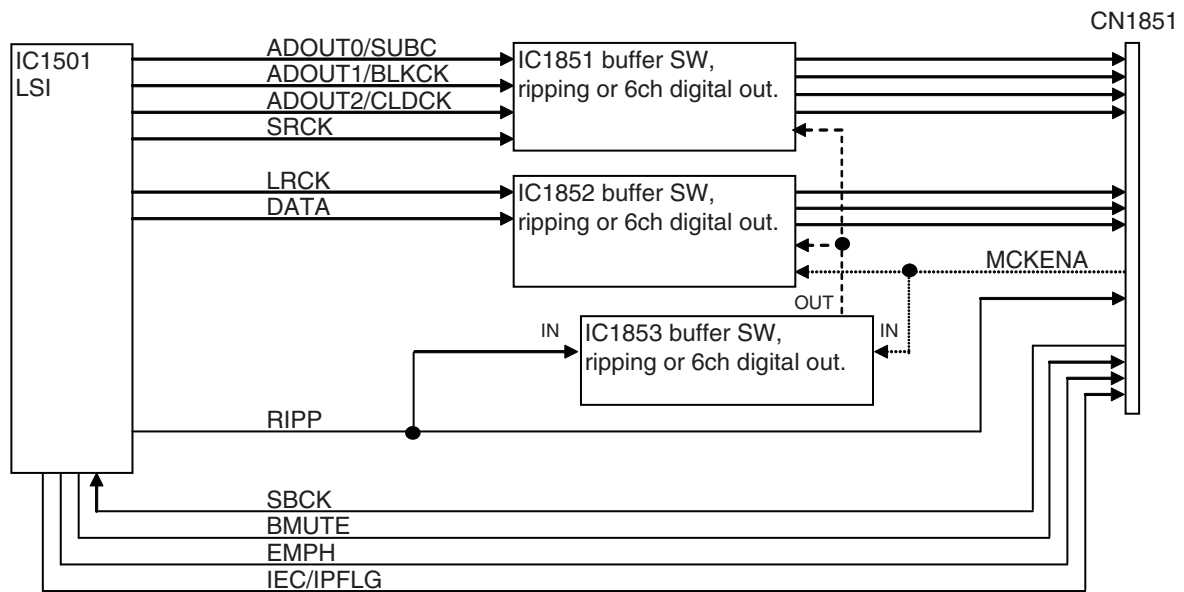
D

E

F



<Outline> At the time of 6ch digital out, the serial 6 lines output from DVD-LSI (IC1501) is output via CN1851.  
Furthermore, at the time of ripping, the serial 3 lines digital output + SUBC, output from DVD-LSI (IC1501), is output in 4 times speed via CN1851.



The signal at CN1851 for 6ch digital out/Ripping.

Pin No.	Pin name	6ch digital out	Ripping
2	SRCK	SRCK	SRCK
4	LRCK	LRCK	LRCK
6	AD0/SUBC	ADOUT0	SUBC
8	AD1/BLK	ADOUT1	BLKCK
10	AD2/CLD	ADOUT2	CLDCK
12	AD3/DATA	ADOUT3	DATA
14	IEC/IPFLG	IEC	IPFLG
16	-	-	-
18	SBCK	-	SBCK
20	BMUTE	BMUTE	-
21	MCKENA	Low	High
22	RIPP	High	Low
23	EMPH	EMPH	EMPH

Pins 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 and 24 are GNDD.

Fig 10.7: 6ch digital out/Ripping circuit

Playback DVD-REF-A1 TITLE22 CHAPTER 1, and check with GNDD being the reference.

In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

Check 24pin FFC after connecting it to a jig, etc.

NO.	Check point 1 (stylus)	Specification value 1	Specification value 2
7	SRCK	VCC33 V-0.6 V or higher	0.4 V or lower
8	LRCK	VCC33 V-0.6 V or higher	0.4 V or lower
9	ADOUT0	VCC33 V-0.6 V or higher	0.4 V or lower
10	ADOUT1	VCC33 V-0.6 V or higher	0.4 V or lower
11	ADOUT2	VCC33 V-0.6 V or higher	0.4 V or lower
12	IEC	VCC33 V-0.6 V or higher	0.4 V or lower
13	MCKENA	-	VCC33 V x 0.3 V or lower

Rip common CDDA, and check with GNDD being the reference.

In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

Check 24pin FFC after connecting it to a jig, etc.

NO.	Check point 1 (stylus)	Specification value 1	Specification value 2
14	SRCK	VCC33 V-0.6 V or higher	0.4 V or lower
15	LRCK	VCC33 V-0.6 V or higher	0.4 V or lower
16	SUBC	VCC33 V-0.6 V or higher	0.4 V or lower
17	BLKCK	VCC33 V-0.6 V or higher	0.4 V or lower
18	CLDCK	VCC33 V-0.6 V or higher	0.4 V or lower
19	DATA	VCC33 V-0.6 V or higher	0.4 V or lower
20	SBCK	VCC33 V-0.6 V or higher	0.4 V or lower
21	RIPP	-	VCC33 V x 0.3 V or lower

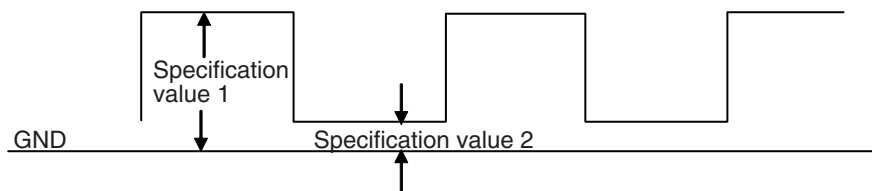
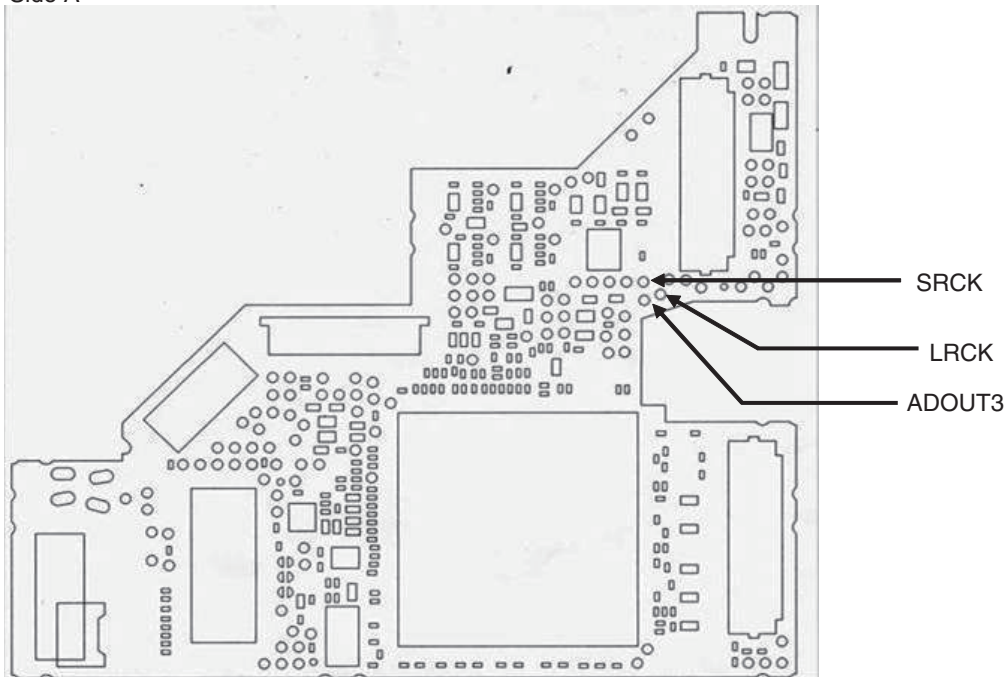


Fig 10.8: 6ch digital out/Ripping specification value

Side A



Side B

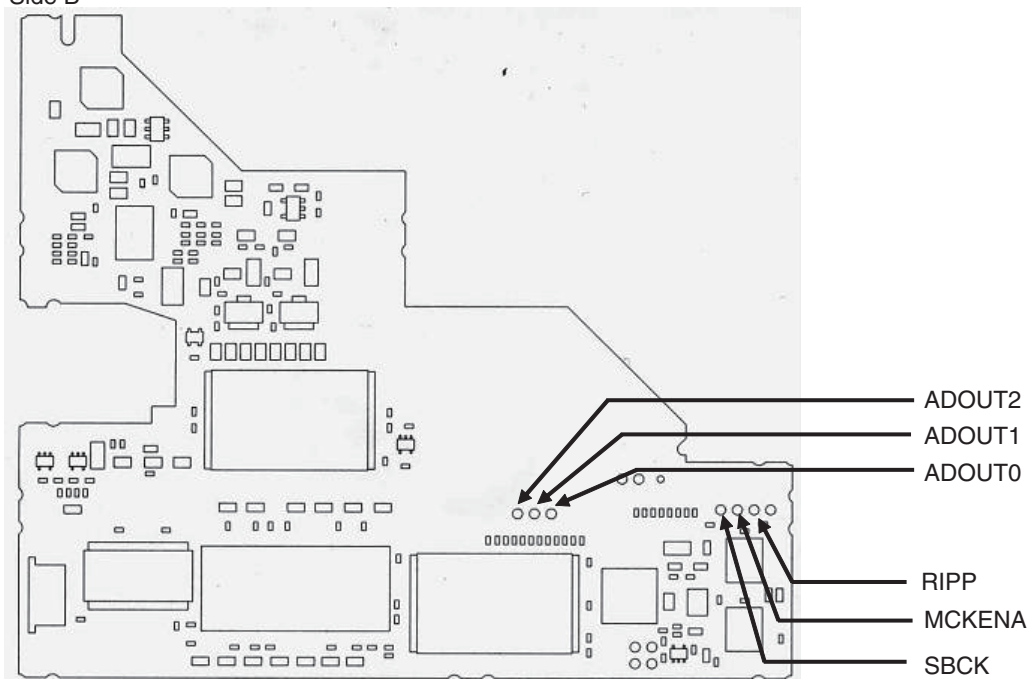


Fig 10.9: 6ch digital out/Ripping check point

## Check 11: Is the video circuit OK?

<Outline> Composite signal and component signal are output from DVD-LSI (IC1501), and are output from the HOST I/F (CN1901) via a buffer circuit.

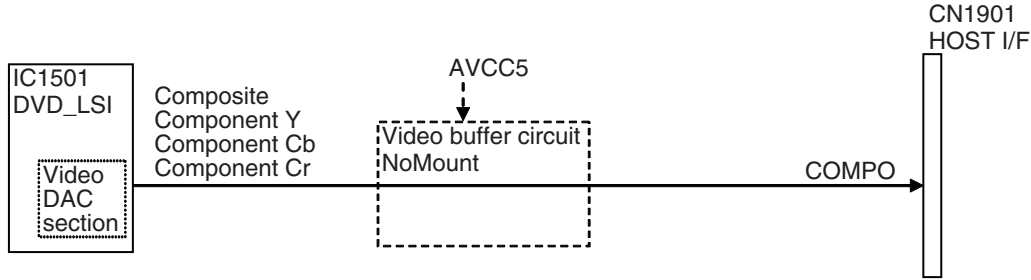


Fig 11.1: Video circuit

<Checking method> Playback DVD-REF-A1 TITLE2 CHAPTER5 (WHITE 100%), and monitor COMPO signal with an oscilloscope with GNDV1 (stylus) being the reference. Set the trigger mode to "TV trigger" and the trigger line to "150 line".

Check point 1 (stylus)

NO.		Specification value	Reference waveform
1	COMPO	1 000 mVpp $\pm$ 5 %	Waveform 6

In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

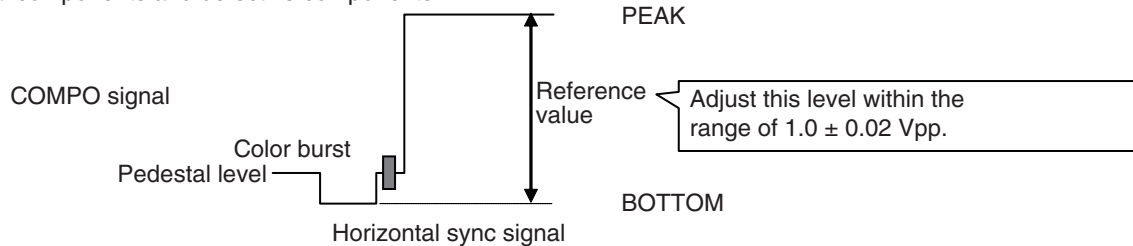


Fig 11.2: Waveform for the case of composite white 100% output

<Video level readjustment method>

In case the video composite output is outside of the specification value, readjust the level according to the method described below.

Turn the volume (VR1671) to adjust the video level within the range of  $1.0 \pm 0.02$  Vpp.

The adjustment specification is  $1.0 \pm 0.02$  Vpp.

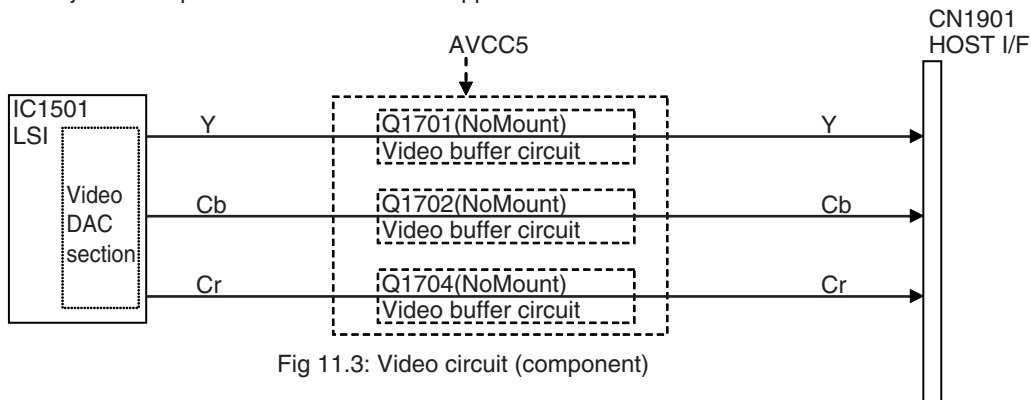


Fig 11.3: Video circuit (component)

<Checking method> Playback DVD-REF-A1 TITLE2 CHAPTER19 (100% Color Bars), and monitor Y, Cb, and Cr signal with an oscilloscope with GNDV1 (stylus) being the reference. Set the trigger mode to “TV trigger” and the trigger line to “150 line”.

NO.	Check point 1 (stylus)	Specification value	Reference waveform
2	Y	1 000 mVpp $\pm$ 5%	Waveform 7
3	Cb	700 mVpp $\pm$ 5%	Waveform 7
4	Cr	700 mVpp $\pm$ 5%	Waveform 7

In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

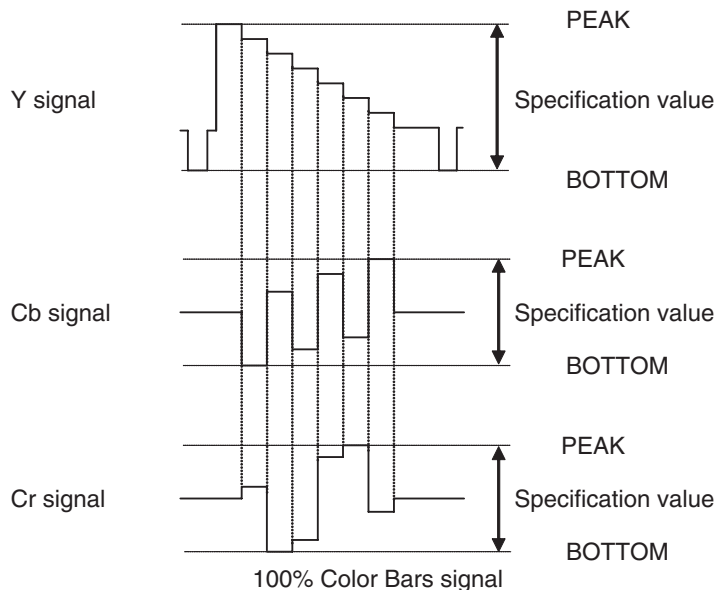


Fig 11.4 Waveform for the case of component 100% Color Bars output

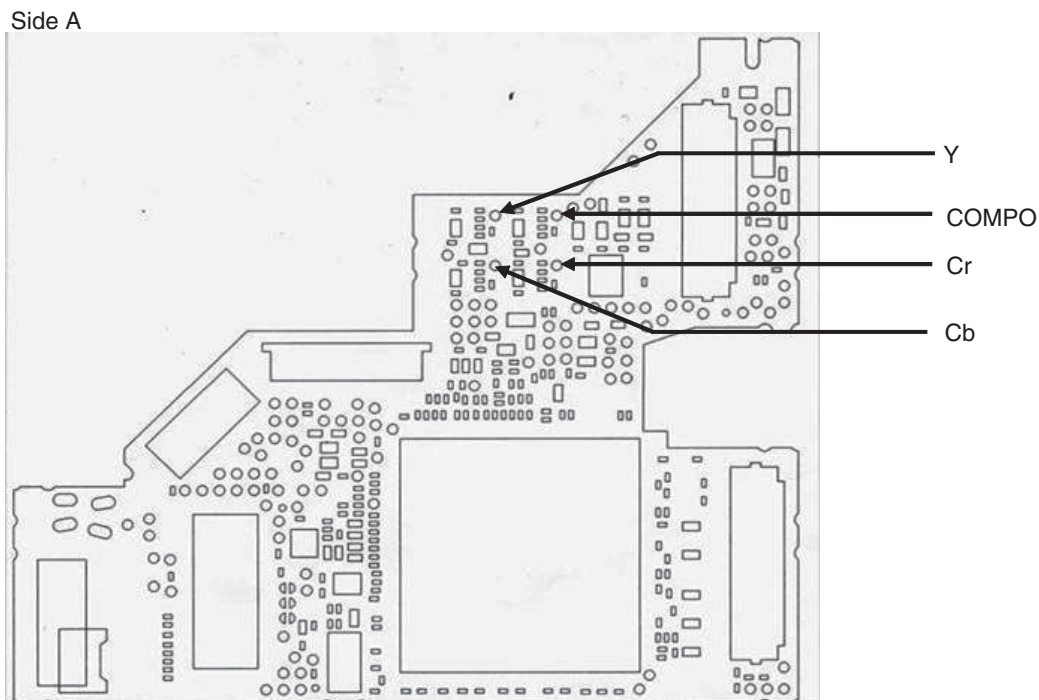


Fig 11.5: VIDEO signal check point

## Check 12:How to judge whether the flash memory has reached its life or not.

A If the reaction to user operation is slow or operation is slow in general, there is a possibility that the flash memory has reached its life.

Make judgment regarding the flash memory life by looking at the display of the LD energizing time.

1.Let the LD energizing time displayed.

(Refer to the FE test mode for the method of displaying the LD energizing time.)

2.If the second digit from the left of the energizing time display is showing E,  
such as “\*E \* \* \* \* \*”, it means that the flash memory has reached its life.

Example:

0E00BB8

B

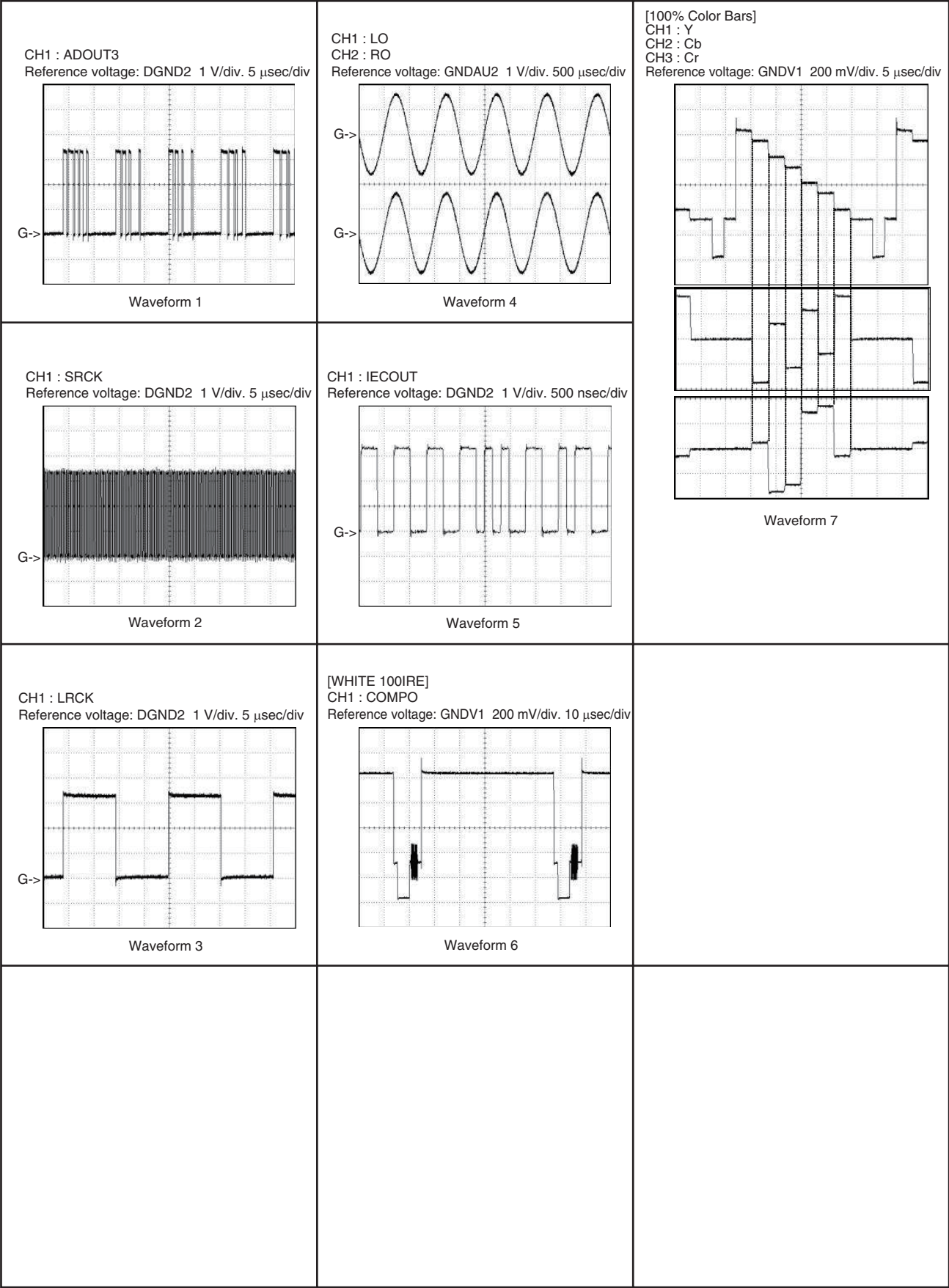
C

D

E

F

AUDIO VIDEO





## 5.3 ERROR CODE LIST

	Error status	OSD *1	UART *2	Meaning	Method of reset			
					ACC Off/On	Source Off/On	Eject	Play Key
A	Media Error	It is a disc unable to be played back. NON-PLAYABLE DISC	00h	A disc containing the unplayable Format only.	X	X	X	-
	Open	(No display)	10h	Door open error	*	*	*	*
	Read Error	ERROR-02-99	20h	Transfer start error	X	X	X	X
B	Focus Error(Focus Error in mechanism set up)	ERROR-02-90	21h	Focus error	X	X	X	X
	Surface Error	ERROR-02-9E	22h	Focus error during set up (A focus has never been achieved with that disc.)	X	X	X	X
	Address not found (Invalid Track)	ERROR-02-80	23h	Address not found.	X	X	X	X
C	Spindle Lock	ERROR-02-91	24h	Spindle lock NG (the disc cannot rotate)	X	X	X	X
	Carriage HOME	ERROR-02-92	25h	Carriage home NG (The pick up tries to return to carriage home, but it cannot go back and stopped.)	X	X	X	X
	ID/SUBCODE Read Error	ERROR-02-94	26h	ID/SUBCODE Read Error (ID/SUBCODE cannot be read due to scratch or stain.)	X	X	X	X
D	AV CHIP decode Error	ERROR-02-9A	2Ah	AV CHIP decode NG (AV chip cannot be decoded.)	X	X	X	X
	AV CHIP Recovery NG	ERROR-02-9B	2Bh	AV CHIP recovery NG	X	X	X	X
	Error of PLAY BACK Mode Status	ERROR-02-9C	2Ch	Playback state error (An error due to software bug.)	X	X	X	X
E	Disc Data Error	ERROR-02-9D	2Dh	Disc Data NG	X	X	X	X
	Temp Error (In Case of High Temperature)	Temperature protection circuit is being activated. THERMAL PROTECTION IN MOTION	30h	High temperature (Playback is stopped because the pick up temperature is 89 °C or higher.)	X	-	-	-
	No Disc (including Disc loading and ejecting)	(No display)	40h	Disc has not been inserted. (Including Load in process or Eject in process.)	*	*	*	*
F	Loading_Mecha Error	(No display)	50h	Loading mechanism error (The disc cannot be clamped.)	X	-	X	-
	DRM Error	It is a protected disc. PROTECTED DISC	70h	DRM error (All music cannot be played back due to DRM.)	-	-	X	-
	Region code Error NG	Region code is incorrect. DIFFERENT REGION DISC	90h	Region code NG (Unable to be played back due to incorrect mechanism region.)	-	-	X	-
A	CPPM*3 Key Error *4	It is a disc unable to be played back. NON-PLAYABLE DISC	91h	Key Error for playback	-	-	X	-
	CPRM Key Error *7	NON-PLAYABLE DISC	93h	Key Error for playback	-	-	X	-
	AWM*5 Error *4	(No display)	*6	Playback the illegally copied disc by DVD-A (Mute the sound on the mechanism side.)	X	X	X	-
B	REQUEST error	ERROR-02-A0	A0h	REQUEST error	X	X	X	X
	Failure in issuing read command (chip dependent)	ERROR-02-A1	A1h	Failure in issuing the read command	X	X	X	X
	Adjustment of L0 is NG.	ERROR-02-A2	A2h	L0 adjustment is NG.	X	X	X	X
C	Adjustment of L1 is NG.	ERROR-02-A3	A3h	L1 adjustment is NG	X	X	X	X
	LD system NG	ERROR-02-A4	A4h	LD system NG	X	X	X	X
	Gain adjustment system NG.	ERROR-02-A5	A5h	Gain adjustment system NG.	X	X	X	X
D	Gain determining system NG.	ERROR-02-A6	A6h	Gain determining system NG.	X	X	X	X
	Servo initial setting related items NG.	ERROR-02-A7	A7h	Servo initial setting related items NG.	X	X	X	X
	Disc is not clamped yet.	ERROR-02-A8	A8h	Disc is not clamped yet.	X	X	X	X
E	Tracking system NG.	ERROR-02-A9	A9h	Tracking system NG	X	X	X	X
	Media setting system NG.	ERROR-02-AA	AAh	Media setting system NG	X	X	X	X
	Focus Error	ERROR-02-AB	ABh	JUMP over layers NG	X	X	X	X
F	Error of PLAY BACK Mode Status	ERROR-02-B0	B0h	Navigation command error	X	X	X	X
	Error of PLAY BACK Mode Status	ERROR-02-B1	B1h	Retry over	X	X	X	X
	Undefined Error	ERROR-FF-FF	FFh	Undefined error	X	X	X	X

X: Cancel the error by operation. -: Error is not cancelled by operation. \*: No setting

\*1 A content displayed on OSD. As for the items having multiple display patterns, the upper row is for the Japanese version Full GUI, and the lower row is for the Touch Panel model and Full GUI (English version).

\*2 A parameter of UART command, such as "receipt error notice", that the DVD mechanism transmits.

\*3 CPPM(Content Protection for Prerecorded Media) : A copyright protection technique used in DVD-A. The protection is realized by using the keys recorded on the media and the device key held by the player.

\*4 DVD-A compatible model only.

When an error has occurred, only the audio output will be muted but playback operation will continue. Furthermore, acceptance of the user operation will be the same as usual.

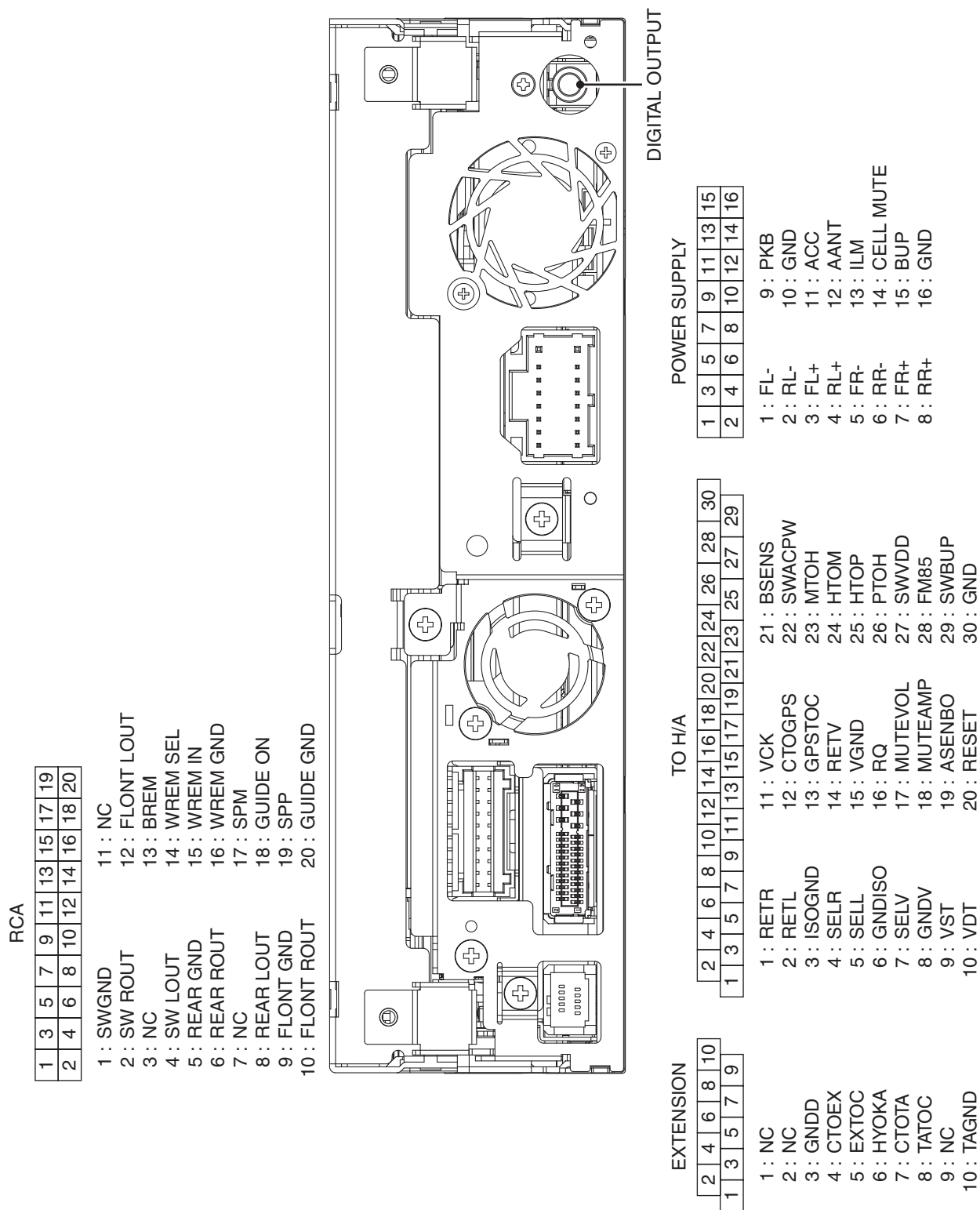
\*5 AWM (Audio WaterMark): Electronic watermark. Information on the copyright owner or CCI (copy control information) are recorded so that illegally copied discs can be identified.

\*6 Notice as an error status will not be given

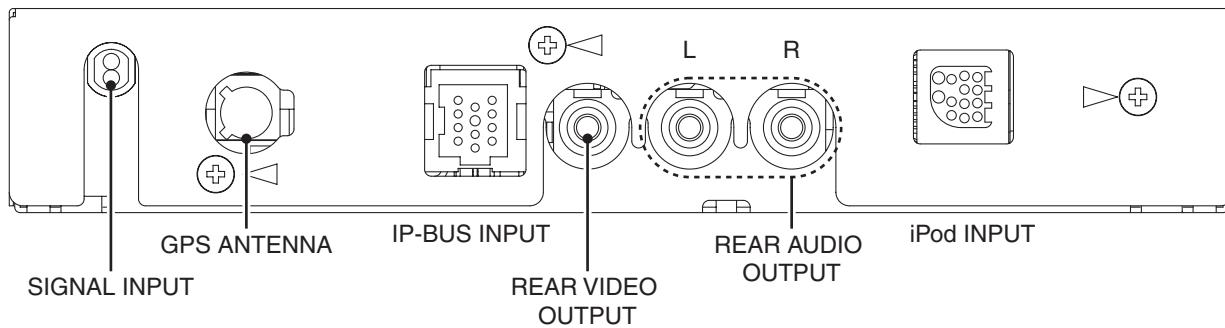
\*7 CPRM(Content Protection for Recordable Media) : A copyright protection technique for digital contents used for re-writable DVD or memory card. (DVD-VR model only)



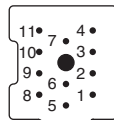
## 5.4 CONNECTOR FUNCTION DESCRIPTION



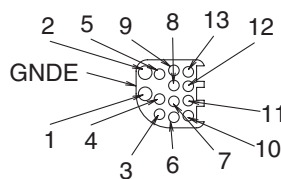
A



B

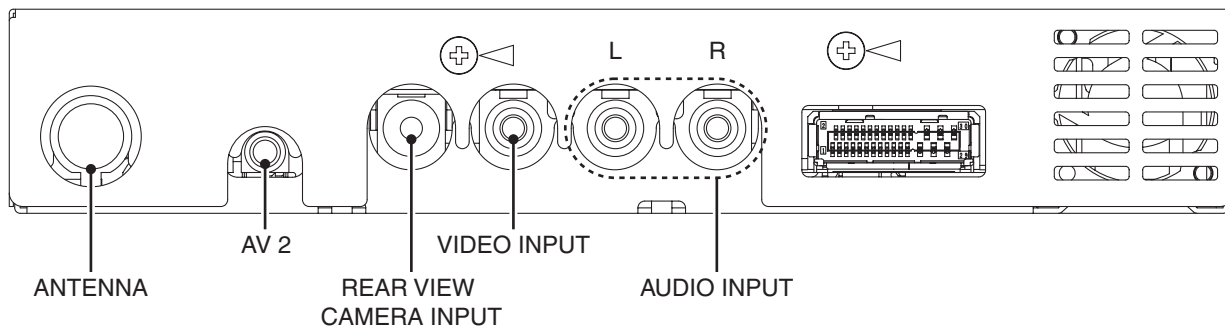


- 1 : BUS+
- 2 : IPBUSG
- 3 : IPLG
- 4 : NC
- 5 : BUS-
- 6 : IPRG
- 7 : Lch
- 8 : ASENBO
- 9 : Rch
- 10 : Rch\_GND
- 11 : Lch\_GND



- 1 : F/W GND
- 2 : F/W PWR
- 3 : TXiPod
- 4 : ACCID
- 5 : LOUT
- 6 : RXiPod
- 7 : VOUT
- 8 : ROUT
- 9 : GNDD
- 10 : ACCPW
- 11 : ACCDET
- 12 : V\_RETURN
- 13 : A\_RETURN
- GNDE : SHIELD GND

C



D

E

TO NAVI

2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29

- 1 : RETR
- 2 : RETL
- 3 : ISOGND
- 4 : SELR
- 5 : SELL
- 6 : GNDISO
- 7 : SELV
- 8 : GNDV
- 9 : VST
- 10 : VDT
- 11 : VCK
- 12 : CTOGPS
- 13 : GPSTOC
- 14 : RETV
- 15 : VGND
- 16 : RQ
- 17 : MUTEVOL
- 18 : MUTEAMP
- 19 : ASENBO
- 20 : RESET
- 21 : BSSENS
- 22 : SWACPW
- 23 : MTOH
- 24 : HTOM
- 25 : HTOP
- 26 : PTOH
- 27 : SWVDD
- 28 : FM85
- 29 : SWBUP
- 30 : GND

F

## 6. SERVICE MODE

### 6.1 TEST MODE

#### 1. How to start the test mode

##### 1. Service Specification

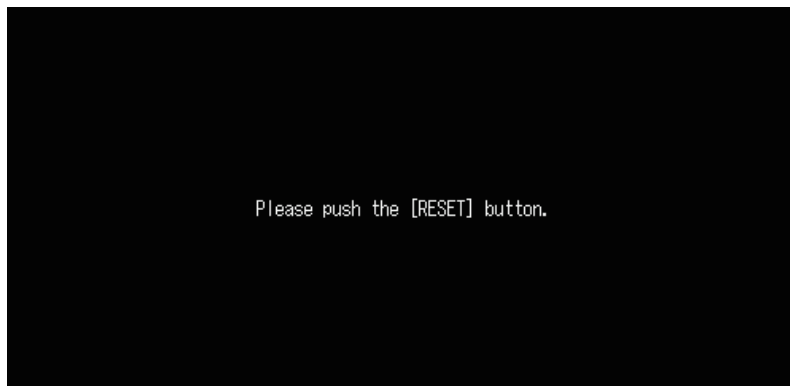
1. When +Battery and ACC are ON, push RESET and EJECT buttons simultaneously.
2. Release RESET button only.
3. When "Password Entry Screen" is displayed, release EJECT button.
4. Enter the password.
5. If the correct password has been entered, the test mode menu will be displayed.

<< Password for the service >>

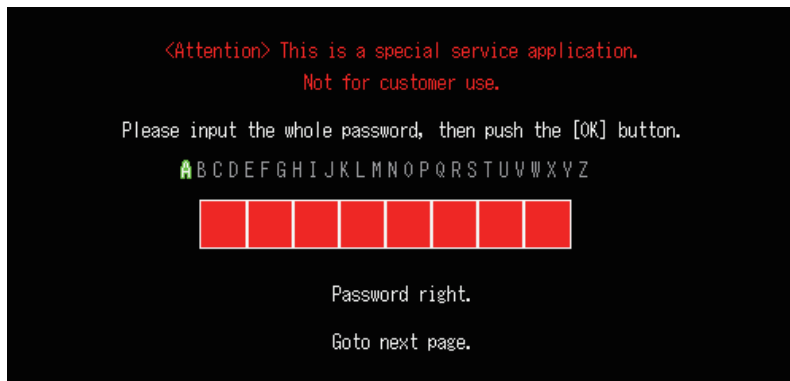
[8] → [1] → [8] → [3] → [7] → [2] → [0] → [8]

If 8 digits or more are entered and [ENTER] key is pressed, it will be treated as a password error.

##### • Password Entry Screen



##### • Password OK : After 2 seconds or so, the screen will automatically move on to the menu screen



##### • Password error: Nothing will be displayed, and reboot action will be taken.

2. How to operate in the Test Mode

Use the remote controller for operation (Part No.:CXC6317 SW1:AVH SW2:DVD)

Key notation in the test mode	Operation	Key allocation
UP	Cursor upward movement ↑	Ten-key 2
DOWN	Cursor downward movement ↓	Ten-key 8
==> next ==>	Cursor rightward movement (to the next page) →	Ten-key 6
<== <== back	Cursor leftward movement (to the previous page) ←	Ten-key 4
OK ENTER	Selection / Execution	Ten-key 5
BACK	Go back / cancel	Ten-key C
NAVI	-	Ten-key 7
MENU	-	Ten-key 0

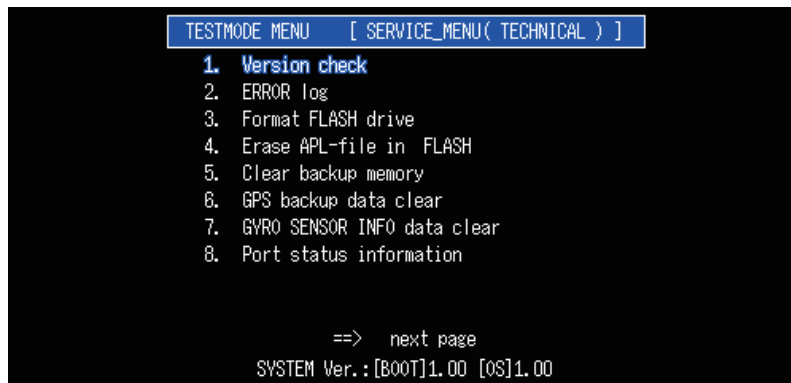
### 3. Test Mode Menu

1. Production Engineering Specification

2. Service Specification

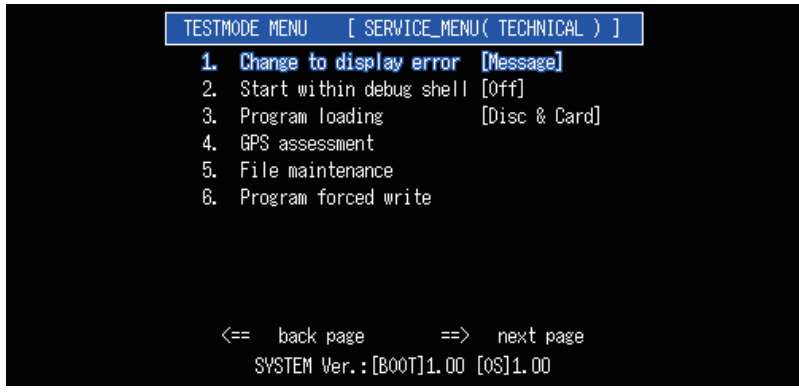
- OS Version

[1st Page]



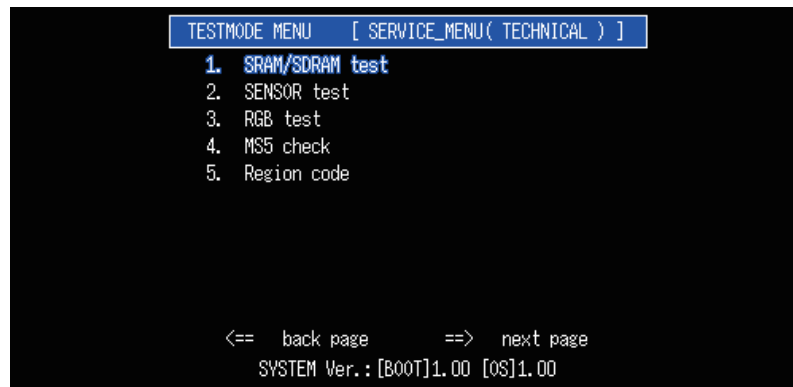
No	Inspection item	Outline of inspection	Content of inspection
1	Version check	Version check	Display of various version information (system software, GPS, application, system microprocessor, etc.)The system will return to “menu” by BACK key. (⏮)
2	ERROR log	Error history entry	History of system software errors stored in SRAM is displayed. Maximum 24 events can be displayed, with the error last occurred on the top. The system will return to “menu” by BACK key. (⏮)
3	Format FLASH drive	FLASH format	FLASH domain used by the file system is initialized. When the job is done, the screen will return to “menu”.
4	Erase APL-file in FLASH	Clearing application files within FLASH	Files except for files related to the SRAM backup variable are cleared. When the job is done, the screen will return to “menu”.
5	Clear backup memory	Back up variables initialization	SRAM domain used by the system software is initialized. When the job is done, reboot action will be taken.
6	GPS backup data clear	GPS back up data clear	SRAM domain used by GPS is initialized. When the job is done, the screen will return to “menu”.
7	GYRO SENSOR INFO data clear	Clearing learned data inside gyro sensor	Learned data inside gyro sensor is cleared. When the job is done, the screen will return to “menu”.
8	Port status information	Port status display	Port status is displayed (reverse, parking, pulse.)

[2nd page]



No	Inspection item	Outline of inspection	Content of inspection		
1	Change to display error	Switching of error information display	Display setting for error cases (for debugging) Message (message)/Information (error information) selectable.		
2	Start within debug shell	Switching of debug shell start	Setting for debug shell start (for debugging) Off (no initial start)/On (initial start) selectable.		
3	Program loading *Not yet supported in 07 Overseas models	Switching of program loading	Setting of the recording media to be referred to in the program automatic version upgrade		
			Disc (default)	System program	Write when the version No. in the disc is higher.
				System data	Write when the version No. in the disc is higher.
				GPS program	Write when the version No. in the disc is higher.
				Application program	Write when the version information is different from the one in disc.
			Disc & Card (for debugging)	System program	Write when the version No. in disc or card is higher.
				System data	Write when the version No. in disc or card is higher.
				GPS program	Write when the version No. in disc or card is higher.
Application program	Write when the version No. in disc or card is higher.				
4	GPS assessment	GPS assessment system start	GPS assessment system can be used. The system will return to “menu” by BACK key. (🔼)		
5	File maintenance	File maintenance function	File maintenance operations are made: Formatting of SRAM drive and PC card (ATA Flash Card) are made. SRAM data is retrieved and copied to PC card. Data retrieved from SRAM is copied to SRAM from PC card.		
6	Program forced write	Program forced write	Rewriting of SYS (system), GPS (GPS) and APL (application) software are done by force. Flags in the initial status are switched, and the language setting is changed. (Joystick is used) The system will return to “menu” by BACK key. (🔼)		

[3rd page]



No	Inspection item	Outline of inspection	Content of inspection
1	SDRAM/SRAM test	Memory inspection	SDRAM : Device inspection and bus inspection are performed against SDRAM domains. Data will be protected for both BIOS domain and USER domain. SRAM : Device inspection and bus inspection are performed against all SRAM domains. Data will be protected.
2	SENSOR test	Sensor inspection	G sensor, gyro, power supply voltage and installation conditions are displayed. The system will return to “menu” by BACK key. (⏮)
3	RGB test	Image RGB inspection	RGB inspection The display will be as follows: red (FULL) → green (FULL) → blue (FULL) → color pattern (upper half in 8 colors of black/blue/red/pink/green/light blue/yellow/white & lower half in 3 colors of red/green/blue). The display is toggled by the [←] and [→] keys. The system will return to “menu” by BACK key. (⏮)
4	MS5 check	MS5 check	MS5 mechanism test mode inspection
5	Region code	Region code display	Region code display

#### 4. Version information

SYSTEM Ver.: [BOOT]X.XX

Version No. for BOOT section = X.XX    System software does not exist.

SYSTEM Ver.: [BOOT]X.XX [OS]Y.YY

Version No. for BOOT Section = X.XX    Version No. of the system software = Y.YY

[1st Page]

1. Version check

Version Information Screen





# Item Description

Item	Content	Displayed Information	File name
1	System boot version Version information of the system software BOOT section (FLASH) is displayed.	[** **]→Version information of the system software BOOT section	EW071BOT.PRG UC071BOT.PRG
2	System OS version Version information of the system software OS section (FLASH) is displayed.	[** **]→Version information of the system software OS section [ NG ]→System program doesn't exist.	EW071SYS.PRG UC071SYS.PRG
3	GPS program version Version information of the GPS program (DRAGON) is displayed.	[** **]→Version information of the GPS program. [ NG ]→GPS program doesn't exist.	EW071GPS.PRG UC071GPS.PRG
4	Application version Version information of the application program (FLASH) is displayed.	[** **]→Version information of the application program [ NG ]→Application program doesn't exist.	EU071APL.PRG
5	Language data version Version information of the language data (FLASH) is displayed.	[** **]→Version information of the language data [ NG ]→Language data do not exist.	EW070DAT.xxx (xxx : An extension is specified for each language. GBR, DEU, FRA, ITA, NLD, ESP, SWE, DNK) UC070DAT.yyy (yyy : An extension is specified for each language. USA, FRA, ESP)
6	Sound data version Version information of the language sound data (FLASH) is displayed.	[** **]→Version information of the language sound data. [ NG ]→Language sound data do not exist.	EW070SDF.xxx (xxx : An extension is specified for each language. GBR, DEU, FRA, ITA, NLD, ESP, SWE, DNK, BEL) UC070SDF.yyy (yyy : An extension is specified for each language. USA, FRA, ESP)
7	Syscom version Version information of the system microprocessor is displayed.	[** **]→Version information of the system microprocessor. [ NG ]→Communication with the system microprocessor has not been established.	
8	Syscom romc version ROM-collection version information of the system microprocessor is displayed.	[** **]→ROM-collection version information of the system microprocessor [ - - - - - ]→Not equipped with ROM collection.	
9	Power ucom version Version information of the power supply microprocessor is displayed.	[** **]→Version information of the power supply microprocessor [ NG ]→Communication with the power supply microprocessor has not been established.	
10	Power ucom romc version ROM-collection version information of the power supply microprocessor is displayed.	[** **]→ROM-collection version information of the power supply microprocessor [ - - - - - ]→Not equipped with ROM collection.	
11	Drive version Core version information of the microprocessor for mechanism control is displayed.	[** **]→Core version information of the microprocessor for mechanism control [ NG ]→Communication with the microprocessor for mechanism control has not been established. [ - - - - - ]→Mechanical region is different.	
12	Monitor ucom version Version information of the microprocessor for monitor is displayed.	[** **]→Version information of the microprocessor for monitor [ NG ]→Communication with the microprocessor for monitor has not been established.	
13	Monitor ucom romc version ROM-collection version information of the microprocessor for monitor is displayed.	[** **]→ROM-collection version information of the microprocessor for monitor [ - - - - - ]→Not equipped with ROM collection.	
14	System program System software file is displayed.	[EW071SYS.PRG]→System software file for EW [UC071SYS.PRG]→System software file for UC [ NG ]→System software file doesn't exist.	
15	Application language Language data file is displayed.	[EW070DAT.xxx]→Language data file for EW [UC070DAT.yyy]→Language data file for UC [ NG ]→Language data do not exist.	EW070DAT.xxx (xxx : An extension is specified for each language. GBR, DEU, FRA, ITA, NLD, ESP, SWE, DNK) UC070DAT.yyy (yyy : An extension is specified for each language. USA, FRA, ESP)
16	Sound data language Language sound data file is displayed.	[EW070SDF.xxx]→Language data file for EW [UC070SDF.yyy]→Language data file for UC [ NG ]→Language sound data do not exist.	EW070SDF.xxx (xxx : An extension is specified for each language. GBR, DEU, FRA, ITA, NLD, ESP, SWE, DNK, BEL) UC070SDF.yyy (yyy : An extension is specified for each language. USA, FRA, ESP)

## 2. ERROR log

### 1. Error Information

Descriptions of error information, for errors arising from system software problems, will be provided in this section. In the system software, up to 24 sets of information related to errors occurred will be stored in the SRAM as error history.

The line number on which error occurred, error code, and detailed information of the error will be stored as the error history.

There are the following three types:

1. When hi\_sysdwn( ) is executed intentionally at the time of fatal error with each BIOS. It is a common error.
2. When either of the following error occurred: multiple exceptions, fatal exceptions, illegal command codes, zero divide, and trap command error
3. When the watchdog timer has activated reset. It occurs when the program fails to function properly.

### 2. Error Log's Entry

Up to twenty-four sets of information will be displayed by the error log entry function, with the latest error appearing on the top.

The display differs, depending on whether the argument passed to hi\_sysdwn( ) includes detailed information (such as program name, version number, creation date, creation time and creator name) or not.

- When detailed information is included:

```

** ERROR INFORMATION **

ERCD = 00000028(40)
FILE = ini_usf.c
LINE = 510(000001fe)
VERS = 1.1.1.1
DATE = 2003/08/08
TIME = 06:07:26
AUTH = daisuke

ERROR-TIME ffff-ff-ff ff:ff:ff

No.4 <== ERROR No.3 ==> No.2
Stop when push [BACK] button.

```

ERCD	Error code (If the FILE cell is "int_wdt.c", the ID of the task, which was being executed when the lower 4 digits were reset, is displayed)
FILE	Program name where the error occurred (In case of "int_wdt.c", it means that watch dog timer activated the reset. At this time, the content of ERCD shows something other than error information).
LINE	Error-occurring program line number.
VERS	Error-occurring program version number
DATE	Error-occurring program creation date
TIME	Error-occurring program creation time
AUTH	Error-occurring program creator name
ERROR-TIME	Date & time of error occurrence

- When detailed information does not exist (in case of an error occurring somewhere else but in the C-source file):

```

** ERROR INFORMATION **

type = 000000b7(183)
ercd = ffffc002(-16382)
inf  = ffb7ac18(-4740072)

ERROR-TIME ffff-ff-ff ff:ff:ff

No.2 <= ERROR No.1 ==> No.24
Stop when push [BACK] button.

```

type	Execution address at the time of error occurrence.
ercd	Contributing factor for the exceptions.
inf	Task number where an exception error occurred. (If it is "0", it means that an error occurred in a non-task section)
ERROR-TIME	Date & time of error occurrence

#### 4. Watch dog timer

This product has a built-in mechanism to monitor at a certain interval whether the software is correctly operating or not.

Once this mechanism becomes inoperable, "reset request" will be sent to the power supply microprocessor when a preset time (approximately 4 seconds) has elapsed.

In order to record operational situation of such an occasion, a special code which is not an error code is recorded in the ERCD.

## 8. Port status information

Test Screen

```

Port status information

Reverse          Low
Parking          Low
Pulse           0

[ BACK ] go to testmode menu.
[ NAVI ] information renewal.

```

Display	Content of inspection
Reverse	Reverse port status
Parking	Parking port status
Pulse	Pulse status

The vehicle speed pulse is displayed in a value equals to 1/5 of the frequency of the input vehicle speed signal.

Example: If the vehicle speed signal is 100Hz, the value will be 20.

Notwithstanding the above, the displayed value may vary depending on the model.

\* How to operate

[BACK]	Return to the test mode menu.
[NAVI]	Update of the port status

[2nd page]

## 1. Change to display error

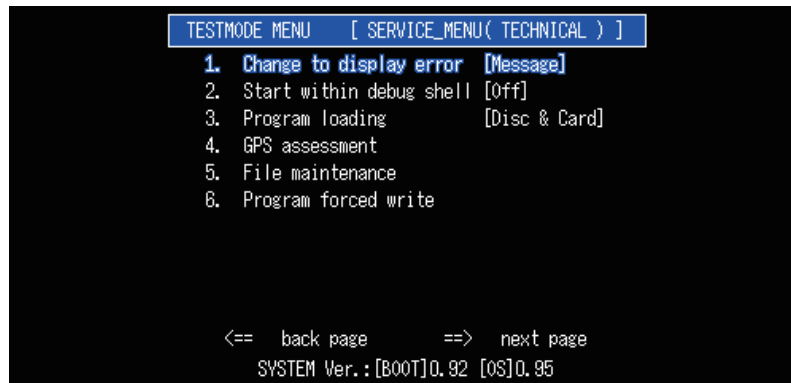
### 1. Switching of Error Information

The product (with default settings) will display error messages to the user if an error occurs.  
Error information can be displayed if an error occurs, by switching the error information in the test mode.

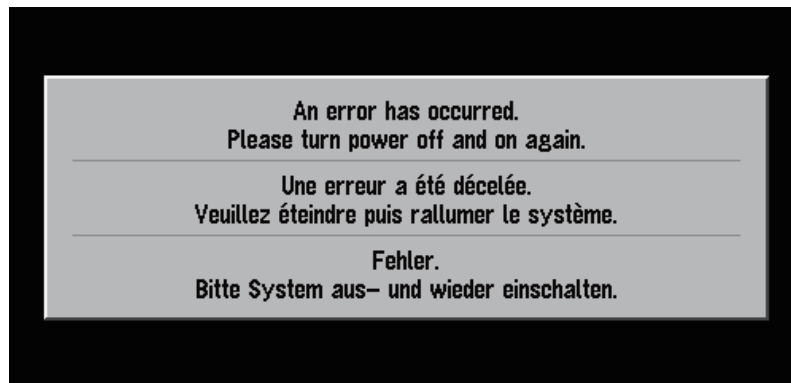
In either case, however, the error log entry display will be the same.

Error message display (default settings):

- Setting in the test mode:

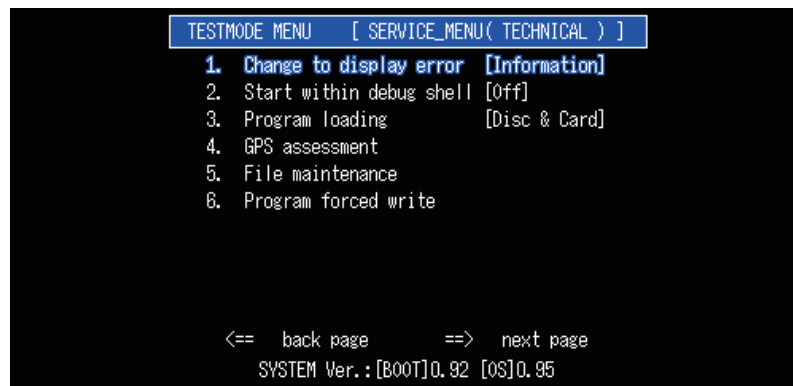


- Display when an error occurs:



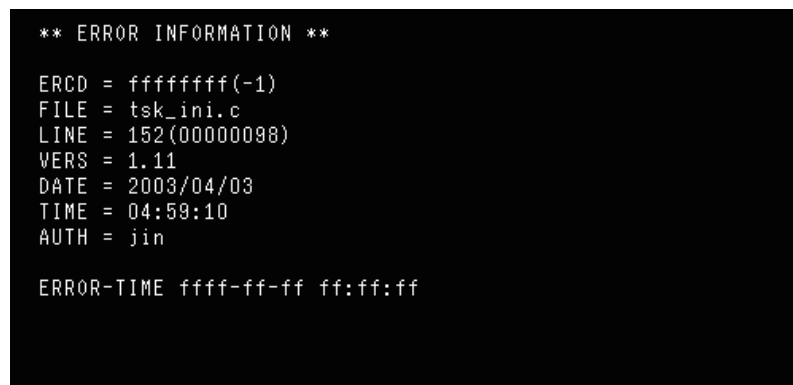
Error information display:

- Settings in the test mode:

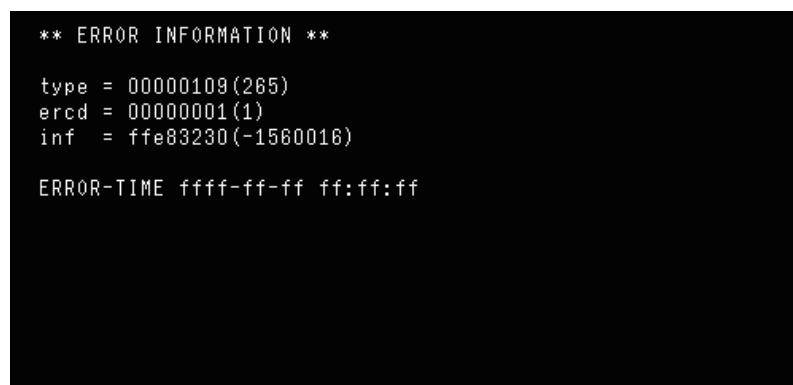


Display when an error occurs:

- If detailed information exists:



- If detailed information does not exist:



## 4. GPS assessment

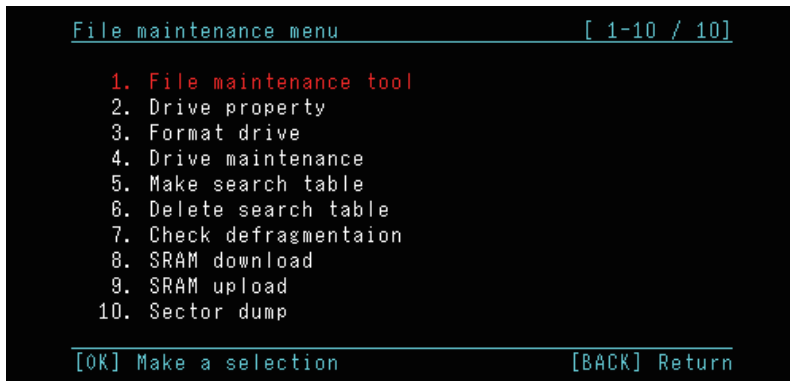
Test Screen



FLASH	Display of DRAGON FLASH ROM version information
GPS	Display of GPS version information
SENSOR	Display of sensor version information

## 5. File maintenance

File maintenance menu

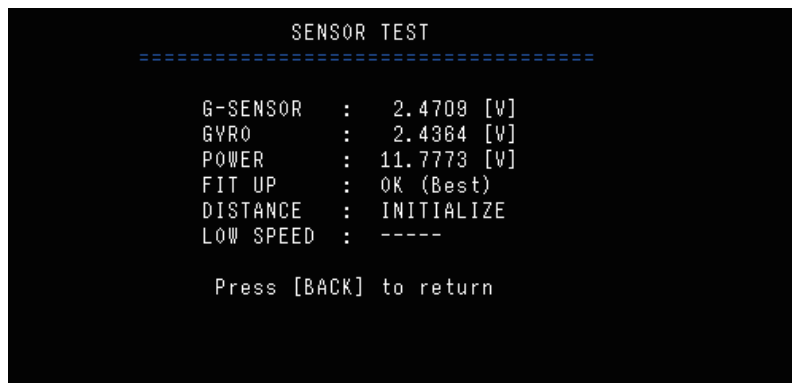


1. File maintenance tool
2. Drive property  
Display of drive property
3. Format drive  
Drive initialization
4. Drive maintenance – Options  
Inspection & repair of FAT file system
5. Make search table  
HDD cluster table creation (not available in overseas models)
6. Delete search table  
HDD cluster table deletion (not available in overseas models)
7. SRAM download  
SRAM → PC ATA CARD download
8. SRAM upload  
SRAM ← PC ATA CARD upload
9. Sector dump

[3rd page]

## 2. SENSOR test

Test Screen



G-SENSOR	Display of G sensor voltage		
GYRO	Display of gyro voltage		
POWER	Display of power supply voltage		
FIT UP	Display of installation status		
	Display	Status	
	• NG	Installation position is NG.	
	• OK	Installation position is OK. (3rd best)	
	• OK(Better)	Installation position is OK. (2nd best)	
	• OK(Best)	Installation position is OK. (Best)	
DISTANCE	Display of distance calculation status.		
	Display	Status	
	• INITIALIZE	Sensor initial learning is under way.	
	• GPS	GPS distance. (Model without G sensor, no pulse connection.)	
	• G-SENSOR	G sensor distance. (simple hybrid.)	
	• ND-PG1	ND-PG1 distance.	
	• SPEED PULSE	Vehicle speed pulse distance	
LOW SPEED	Display of minimum output speed of a low speed NG vehicle (depends on DISTANCE status).		
	DISTANCE status	SPEED PULSE status	Display
	SPEED PULSE	Low vehicle speed pulse learning is under way.	CHECK
		Low vehicle speed pulse is OK.	OK
		Low vehicle speed is NG.	NG xx[km/h]
	Others		-----

## 4. MS5 check

### Specification for X-3212 (MS5 Mecha) Test Mode Operation

#### \* CAUTIONS

Protection is not operational against mechanical runaway conditions during servo testing.  
Critical damage can result if the system is allowed to continue in a mechanical runaway state.  
If abnormal noise is heard during the test, turn the power OFF immediately.

#### Keys used:

[OK] : Selection key

[BACK] : Go-back key

Directional keys : joystick upward/downward/leftward/rightward movement

#### [MS5 X-3212 Test] : Test Mode Initial Screen

```
[ MS5 X-3212 Test ]
FirmWare Revision.
Mecha Ver 1.1.01.01
-----
[1] FE TestMode
[2] EDC-1 mode
[3] EDC-2 mode
[4] LD Energizing time mode

Press [OK] to make a selection
Press [BACK] to X-3212 Test top
```

Mecha Ver : Software Version of MS5 Mecha.

[1] Start the FE test

[2] Start EDC-1 Test

[3] Start EDC-2 Test

[4] Start LD Energizing-time mode

[BACK] Exit from X-3212 Test Mode



## \* CAUTIONS

Protection is not operational against mechanical runaway conditions during servo testing.  
 Critical damage can result if the system is allowed to continue in a mechanical runaway state.  
 If abnormal noise is heard during the test, turn the power OFF immediately.  
 If "E" is displayed as the first digit of the data, you can operate only [BACK] key.

## Keys used:

[OK] : Selection key

[BACK] : Go-back key

Directional keys : joystick upward/downward/leftward/rightward movement

## 1. [X-3212 Servo Test] : Screen in the Power OFF status

```
[ X-3212 NOTHING Servo. Test(0-0) ]
Status: Power Off Data: TEST
[1] Power On
[2] Disc type : DVD 1-Layer
[3] Disc type : DVD 2-Layer
[4] Disc type : CD
[5] Disc type : CD-RW
[6] Disc Eject

Press[OK]to make a selection
Press[BACK]return to former
```

- The display of "NOTHING" will change to a respective medium type, when you select the corresponding number from [2] to [5] shown below.
- The status remains in "POWER OFF".
- The data values will change corresponding to the command executed.

## Note:

[1] can be selected for execution only after execution of either of the commands from [2] to [5].

- [1] Transition to Power On status
- [2] Specification of the DVD 1st layer
- [3] Specification of the DVD 2nd layer
- [4] Specification of CD
- [5] Specification of CD-RM
- [6] Disc eject
- [OK] Execution
- [BACK] Exit from X-3212 Test Mode

## 2. [X-3121 Servo Test (1-0)] : Power-On Status Screen

```

[ X-3212 DVD 1-Layer Servo. Test(1-0) ]
Status: Power On Data: 10000000
[1] Focus Close [2] Focus Search Start [3] CRG + Start
[4] CRG - Start [5] LD-OFF->LD-ON [6] CRG_HOME
-----
FE Offset : 00000000 TE Offset : 00000000
AS Offset : 00000000 ENV Offset : 00000000
TG Offset : 00000000 DBAL : 00000000
VIN_01 : 000007D9 VIN_02 : 000007F3
VIN_03 : 000007EA VIN_04 : 000007FB
VIN_05 : 00000810 VIN_06 : 00000812
VIN_07 : 00000000 VIN_08 : 00000000
VIN_09 : 00000000 VIN_10 : 00000000
Press[OK] to make a selection, Press[BACK] return to former

```

Note:

If no operation is made in about 10 seconds after LD-ON, the system performs LD-OFF automatically.

If you perform Focus Close while the LD is OFF, it will result in an error.

Also during Focus Search (S-curve measurement mode), the safety system is activated if LD-OFF does not occur within 10 seconds. Therefore, LD goes off in 9 seconds, also when Focus Search is performed after LD-ON.

If you perform Focus Close after Focus Search operation (S-curve measurement mode), turn the power off once, and then turn it on, before performing Focus Close.

Note:

You cannot perform operation till completion of the display of values from FE Offset to VIN\_10.

Note:

[1] cannot be executed, unless [5] command is executed beforehand.

[1] Transition to Focus Close 1 status

[2] Execution and stop of Focus Search operation

[3] Execution and stop of CRG+

[4] Execution and stop of CRG-

[5] LD On/OFF

[6] Execution of CRG\_HOME

[OK] Execution/Stop

[BACK] 1, [X-3212 Servo Test] : Return to the Power Off Status screen.

## 3. [X-3212 Servo Test (2-0)] : Focus Close 1 Status Screen

```

[ X-3212 DVD 1-Layer Servo. Test(2-0) ]
Status: Focus Closed1 Data: 20000000
[1] T.Bal
[2] Focus Jump
[3] CRG + Start [4] CRG - Start
-----
FE MAX : 00000D48 FE MIN : 0000F416
AS MAX : 00000648 ENV MAX : 00000500
FE Normal : 000007E8
TE MAX : 00001BEE TE MIN : 0000DE7C
-----
Press[OK] to make a selection
Press[BACK] return to former

```

Note:

The data values will change upon execution of a command.

Note:

You cannot perform operation till completion of the display of values from FE MAX to TE MIN.

[1] Transition to Focus Close 2 status

[2] Execution of Focus Jump

[3] Execution and stop of CRG+

[4] Execution and stop of CRG-

[OK] Execution/Stop

[BACK] 1, [X-3212 Servo Test]: Return to the Power Off Status screen.

#### 4. [X-3212 Servo Test (3-0)] : Focus Close 2 Status Screen

```
[ X-3212 DVD 1-Layer Servo. Test(3-0) ]
Status: Focus Closed2 Data: 30000000
[1] Tracking Close
[2] CRG + Start [3] CRG - Start
[4] RF level
-----
T.Bal( Layer 0 ) : 0000000B
T.Bal( Layer 1 ) : 00000009
TE Normal( Layer 0 ) : 000003F4
TE Normal( Layer 1 ) : 000003F4
OFF TRACK : 0000000A
-----
Press[OK]to make a selection
Press[BACK]return to former
```

Note:

The data values will change upon execution of a command.

Note:

You cannot perform operation till completion of the display of values from T.Bal to OFF TRACK.

- [1] Transition to Tracking Close status
- [2] Execution and stop of CRG+
- [3] Execution and stop of CRG-
- [4] Transition to RF Level Display status
- [OK] Execution/Stop
- [BACK] 1, [X-3212 Servo Test]: Return to the Power Off Status screen.

#### 5. [X-3212 Servo Test (4-0)] : Tracking Close Status Screen

```
[ X-3212 DVD 1-Layer Servo. Test(4-0) ]
Status: Tracking Closed Data: 40000000
[1] Error Rate : -----
[2] Read Speed : x1.3 to x1.6 CAV (LO)
[3] Track Jump + [4] Track Jump - [5] Focus Jump
[6] ID Search [7] Tracking Open( to Focus Close )
-----
F.Bal( 0 ) : 0000FFFA F.Gain( 0 ) : 0000022E
F.Bal( 1 ) : 00000000 F.Gain( 1 ) : 00000200
T.Gain( 0 ) : 00000193 AS Normal( 0 ) : 00000C53
T.Gain( 1 ) : 00000200 AS Normal( 1 ) : 00000CCC
-----
Press[OK]to make a selection
Press[BACK]return to former
```

Note:

The data values will change upon execution of a command.

Note:

You cannot perform operation till completion of the display of values from F.Bal(0) to AS Normal(1).

- [1] Display of the Error Rate (The system become inoperable for about 10 seconds after execution).
- [2] Read speed change (CD: fixed speed)
- [3] To Track Jump+ Screen
- [4] To Track Jump- Screen
- [5] Execution of Focus Jump
- [6] To ID Search Screen
- [7] 3, [X-3212 Servo Test(2-0)]: Transition to Focus Close 1 Status Screen
- [OK] Execution/Stop
- [BACK] 1, [X-3212 Servo Test]: Return to the Power Off Status screen.

6. [X-3212 Servo Test (4-3)] : Track Jump +/- Screen

```
[ X-3212 DVD 1-Layer Servo. Test(4-3) ]
Status: Tracking Closed Data: 4B000000
[1] Track appointment
[2] Start Track Jump +

Please execute [Start Track Jump] command,
to return to a front screen.
Press [OK] to make a selection
```

Note:

The data values will change upon execution of a command.

[1] Upon every execution, the data value is switched cyclically.

In case of CD: 1→4→10→11→32→1→... [Truck]

In case of DVD: 1→4→10→11→32→64→100→1→... [Truck]

[2] Execution of Track Jump+/-

[OK] Execution

[Back] 5, [X-3212 Servo Test(4-0)] : Return to Tracking Close Status Screen

(This can be selected only after execution of Track Jump)

7. [X-3212 Servo Test (4-5)] : ID Search Screen

```
[ X-3212 CD Servo. Test(4-6) ]
Status: Tracking Closed Data: 4A000000
[1] ID appointment :
[2] cursor right
[3] cursor left
[4] cursor up
[5] cursor down
[6] Start ID Search

Press [OK] to make a selection
```

Note:

The data values will change upon execution of a command.

[1] Display of ID

[2] The blue indication on the data is shifted by one digit to the right.

[3] The blue indication on the data is shifted by one digit to the left.

(You cannot move it to the 1st and 2nd digits from the left)

[4] The blue digit of the data is incremented by one.

[5] The blue digit of the data is decremented by one.

[6] Start of the ID Search

[OK] Execution

[Back] 5, [X-3212 Servo Test(4-0)] : Return to Tracking Close Status Screen

(This can be selected only after execution of ID Search)

## 8. [X-3212 Servo Test (5-0)] : RF-Level Display Status Screen

```
[ X-3212 DVD 1-Layer Servo. Test(5-0) ]
Status: RF level disp Data: 50000000
[1] RF level : -----
[2] Error Rate : -----
[3] Tracking Open( to Focus Close )

-----
F.Bal( 0 ) : 0000FFFA F.Gain( 0 ) : 0000023D
F.Bal( 1 ) : 00000000 F.Gain( 1 ) : 00000200
T.Gain( 0 ) : 000001A9 AS Normal( 0 ) : 00000CAB
T.Gain( 1 ) : 00000200 AS Normal( 1 ) : 00000CCC

Press[OK]to make a selection
Press[BACK]return to former
```

Note:

The data values will change upon execution of a command.

Note:

You cannot perform operation till completion of the display of values from F.Bal(0) to AS Normal(1).

[1] Display of RF-level

[2] Display of the Error Rate

[3] Transition to Focus Close 1 Status

[OK] Execution

[Back] 5, [X-3212 Servo Test(4-0)] : Return to Tracking Close Status Screen

## EDC Test Operation Specification

Keys to use:

[OK]

[BACK]

[Directional keys]

Note:

The same operational method applies to both of EDC-1 and EDC-2 tests.

### 1. [X-3212 EDC-1/2 TEST] : Initial Screen

```
[ X-3212 DVD Test ] EDC-1
-----
Layer : 0
ID : 00000000
-----
[1] Select Layer 0
[2] Select Layer 1
[3] Disc Eject

Press [OK] to make a selection
Press [BACK] to DVD Test top( EDC end )
```

Note:

The ID values will change upon execution of a command.

[1] 2: To setting screen of [X-3212 EDC-1/2 Test Layer 0]

[2] 3: To setting screen of [X-3212 EDC-1/2 Test Layer 1]

[3] Disc eject

[OK] Execution

[BACK] Exit from MS5 check

## 2. [X-3212 EDC-1/2 Test Layer 0]

```
[ X-3212 DVD Test ] EDC-1
-----
Layer : 0
ID    : 10030000
-----
[1] cursor right
[2] cursor left
[3] cursor up
[4] cursor down
[5] Start EDC-1

Press [OK] to make a selection
Press [BACK] to DVD Test top( EDC end )
```

Note:

The ID values will change upon execution of a command.

- [1] The blue indication on the ID is shifted by one digit to the right.
- [2] The blue indication on the ID is shifted by one digit to the left.  
(You cannot move it to the 1st and 2nd digits from the left)
- [3] The blue digit of the ID is incremented by one.
- [4] The blue digit of the ID is decremented by one.
- [5] Start of EDC test
- [OK] Execution
- [BACK] Exit from MS5 check

## 3. [X-3212 EDC-1/2 Test Layer 1]

```
[ X-3212 DVD Test ] EDC-1
-----
Layer : 1
ID    : 10030100
-----
[1] cursor right
[2] cursor left
[3] cursor up
[4] cursor down
[5] Start EDC-1

Press [OK] to make a selection
Press [BACK] to DVD Test top( EDC end )
```

Note:

The ID values will change upon execution of a command.

- [1] The blue indication on the ID is shifted by one digit to the right.
- [2] The blue indication on the ID is shifted by one digit to the left.  
(You cannot move it to the 1st and 2nd digits from the left)
- [3] The blue digit of the ID is incremented by one.
- [4] The blue digit of the ID is decremented by one.
- [5] Start of EDC test
- [OK] Execution
- [BACK] Exit from MS5 check

## LD Energizing Time Setting Operation Specification

Keys to use :

[OK]

[BACK]

[Directional keys]

### 1. [X-3212 CD/DVD Energizing Time Mode] : LD Initial Screen

```
[ X-3212 CD/DVD Energizing Time Mode ]
  Display Mode   Data : 00000000
-----
[1] CD  LD-Energizing time display
[2] DVD LD-Energizing time display
[3] CD  LD-Energizing time set
[4] DVD LD-Energizing time set
-----
      CD  LD-Energizing time : -----
      DVD LD-Energizing time : -----
-----
Press [OK] to make a selection
Press [BACK] to Exit this Mode
```

Note:

The data values will change upon execution of a command.

[1] Currently-set CD energizing time is displayed.

[2] Currently-set DVD energizing time is displayed.

[3] To CD Energizing Time Setting Screen

[4] To DVD Energizing Time Setting Screen

[OK] Execution

[BACK] Exit from MS5 check

## 5. Region code

No region can be obtained when a ROM DISC is inserted.

Execute this after ejecting the DISC.

```
=== Region code  check ===

      region code    < 2 >

Press  [BACK]  return.
```

You can go back to the test mode menu by the [BACK] key.

```
=== Region code  check ===

      The ROM-DISC is inserted. Please eject.

Press  [BACK]  return.
```

## 6.2 TEST DISC

Jig No.: GGV1310

Remote controller: CXC6317 (SW1: AVH, SW2: DVD)

### 1. Start / End

#### 1-1. Start

When the test disc is inserted, the title “NN701 TEST DISC” will be displayed.

If [C] key on the remote controller is pressed while the title is being displayed, the menu screen will be displayed.

If no key is pressed, the second inspection (external connection check / C.C) screen for line inspection will be displayed.

Title Screen



#### 1-2. End

No action is taken.

### 2. Key Operation

Operate the test disc using the [10-key] number pad of the DVD remote controller.

The basic operation method of the DVD remote controller is as follows:

- ↑ (cursor upward movement) ..... [2] of the 10-key
- ↓ (cursor downward movement) ..... [8] of the 10-key
- ← (cursor leftward movement) ..... [4] of the 10-key
- → (cursor rightward movement) ..... [6] of the 10-key
- Decision / Confirmation (Enter) ..... [5] of the 10-key
- Going Back / Cancel (Cancel) ..... [C] of the 10-key
- Execution of inspection / repeat of inspection, etc. .... [0] of the 10-key

#### • In the case of inspection screens 1 – 13:

1. The inspection screen and the menu screen can be switched alternately using the [5] key on the DVD remote controller.
2. The screen will go back to the previous inspection screen by the [2] key on the DVD remote controller.
3. The screen will move forward to the next inspection screen by the [8] key on the DVD remote controller.  
(Unless the inspection is finished, the screen will not move forward. The screen will not move forward, too, if there is an NG item.)

\* Refer to the explanation of each screen for the details.

#### • In the case of menu screens 14 – 23:

1. Select an inspection item by the [2] and [8] keys on the DVD remote controller, and inspection screen will appear when the [5] key is pressed.
2. The menu pages can be switched by the [4] and [6] keys on the DVD remote controller.
3. When the [C] key on the DVD remote controller is pressed, the screen will go back to the menu screen.

\* Refer to the explanation of each screen for the details.



## Menu Screen List

```

          --- Self Test Menu ---
1. External Connection(H/W)
2. External Connection(C.C.)
3. Data Communication (Short Circuit) Check
4. Data Communication (Open Circuit) Check
5. Natural Drawing & Rear View
6. VTR1 In check
7. VTR2 In check
8. FM Multiplex Tuner Error Rate
9. GPS Self check

[2/8] : Change cursor, [4/6] : Change page
[5]   : Select item

```

```

          --- Self Test Menu ---
10. Dual Illumination color check
11. Monitor adjustment check
12. Language Flag setup mode
13. Memory all clear

[2/8] : Change cursor, [4/6] : Change page
[5]   : Select item

```

```

          --- Self Test Menu ---
14. Software version display
15. Picture RGB check
16. GPS information
17. GPS sensitivity measurement
18. Sound play
19. File Maintenance mode
20. Picture check
21. Device check(Design engineer only)
22. Memory all clear(for Service)
23. BackUp Memory clear

[2/8] : Change cursor, [4/6] : Change page
[5]   : Select item

```

### 3. Inspection Screens

#### 3-1. External Connection Check (H/W)

```

1. Connection check(H/W)
Reverse gear signal      NOR
Car speed signal        0
Gyro voltage / sigma    2.450V OK / 1.1 OK
GSENS voltage / sigma   2.450V OK / 1.1 OK
Heading                 CONST
Pitch                   CONST

```

[8] It progresses to the next inspection.

- The status of the items indicated in the above figure will be updated every second.
- Set ANTON port to H when starting the inspection and set it to L when ending.
- When the gyro is in operation, a BEEP sound will be made when the G sensor is activated.  
Right: 500 Hz, Left: 700 Hz. Up: 800 Hz, Down: 600 Hz
- Conditions for moving on to the next inspection  
Reverse status is changing between NOR and REV.  
Pulse is changing to a value other than 0/0.

#### Standard value for other items

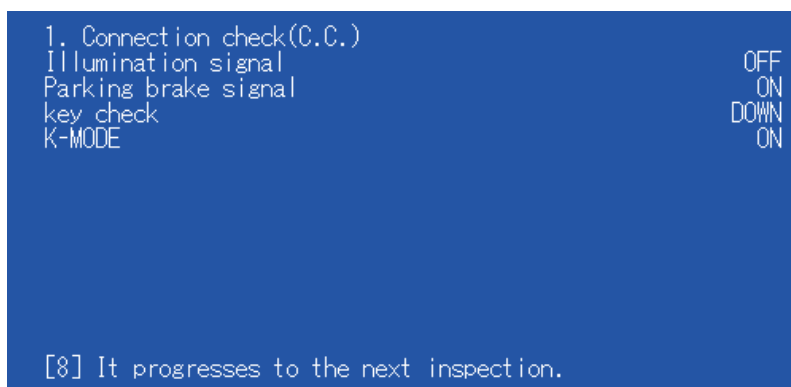
- GYRO voltage  
OK:  $2.5 \pm 0.15$   
USABLE:  $2.5 \pm 0.30$
- GYRO variation  
OK: Less than 30
- G sensor voltage  
OK:  $2.5 \pm 0.15$   
USABLE:  $2.5 \pm 0.30$
- G sensor variation  
OK: Less than 60

- Only when all the conditions are met, you can move on to the next inspection by the [8] key on the DVD remote controller. It should be noted, however, that you will not be able to move on to the next inspection if there is an error (background color is red) even if the conditions are met.

#### <Supplemental explanation regarding error display>

Displayed message	Details of the error
Structural data error	Error which occurs when data cannot be received from A/D converter. Defect of the A/D converter seems to be the cause. It will also happen in case the vehicle speed pulse cannot be measured. (rare)
No connection to DRAGON	Error which occurs when communication with DRAGON is not established. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.
Command error	Time out error for response to BIOS call. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.
Unknown error	Error due to unknown reason.

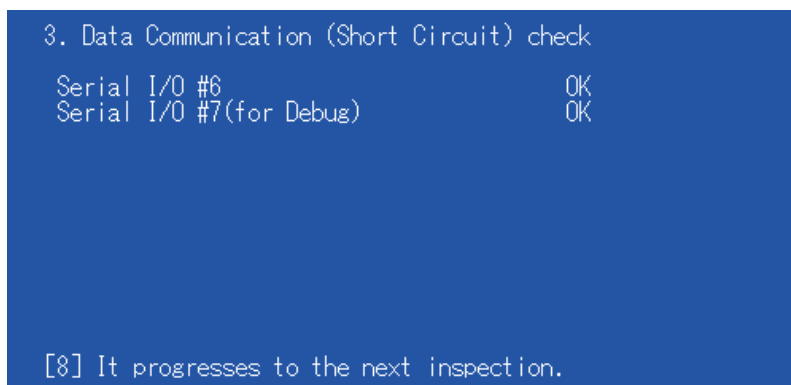
### 3-2. External connection check (C.C.)



- The external port at the C.C. board side is checked.
- The status of the items indicated in the above figure will be updated every second.
- Conditions for moving on to the next inspection
  - Illumination status is changing between ON and OFF.
  - Parking brake status is changing between ON and OFF.
  - K-MODE value is changing between ON and OFF.
- Only when all the conditions are met, you can move on to the next inspection by the [8] key on the DVD remote controller. It should be noted, however, that you will not be able to move on to the next inspection if there is an error (background color is red) even if the conditions are met.

\* "K-MODE" port check can be performed only for models for North America. In case of models for Europe, no "K-MODE" is displayed.

### 3-3. Data Communication (short-circuit) check (Not for service)



- SIO connection short circuit is checked.
- Loop back check is performed on 6CH and 7CH.
- Wait screen is displayed until the checking is completed.
- When [0] key on the DVD remote controller is pressed while the inspection result is being displayed on the screen, inspection will be performed once again.
- Only in the case of OK, you can move on to the next inspection by the [8] key on the DVD remote controller.

### 3-4. Data Communication (Open Circuit) check (Not for service)

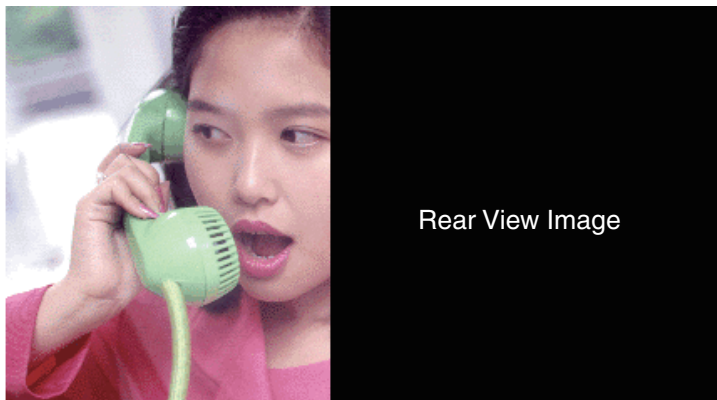
#### 4. Data Communication (Open Circuit) check

```
Serial I/O #6          OK
Serial I/O #7(for Debug) OK
```

[8] It progresses to the next inspection.

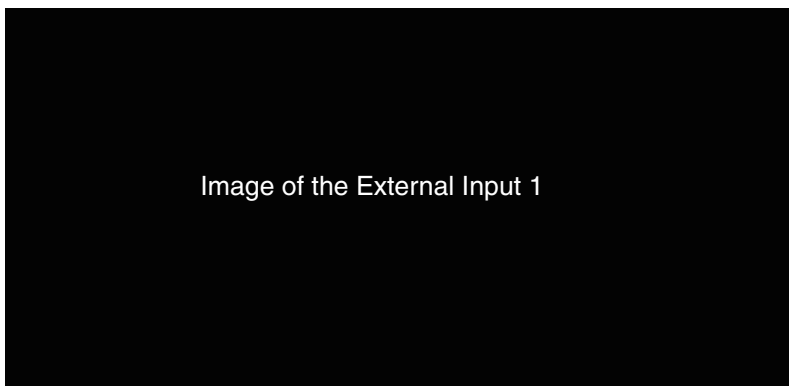
- SIO connection open circuit is checked.
- Check is performed on 6CH and 7CH.
- Do not connect anything to the terminal. OK will be indicated under “open” condition.
- Wait screen is displayed until the checking is completed.
- When [0] key on the DVD remote controller is pressed while the inspection result is being displayed on the screen, inspection will be performed once again.
- Only in the case of OK, you can move on to the next inspection by the [8] key on the DVD remote controller.

### 3-5. Natural Drawing



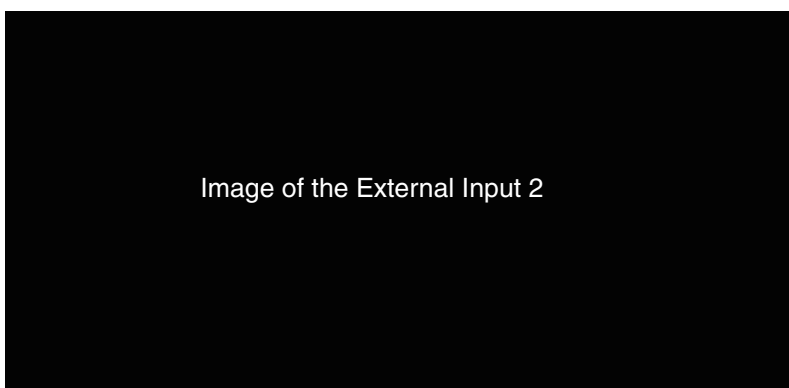
- Natural image consisting of 256 colors will be drawn on the screen.
- ADPCM 1kHz sine wave at the sampling rate of 19kHz will be output for 30 seconds.
- Rear view image will be displayed on the right hand side of the screen.
- Set GUIDEON terminal to H when entering the screen, and set it to L when exiting the screen.
- Volume level can be changed by the [4] and [6] keys on the DVD remote controller. (0 to 9)  
[JPEG file name: ZHITO1.JPEG]  
[Voice file name: A19K01KS.WAV]
- You can move on to the next inspection by the [8] key on the DVD remote controller.

### 3-6. External Input (AV1) Check



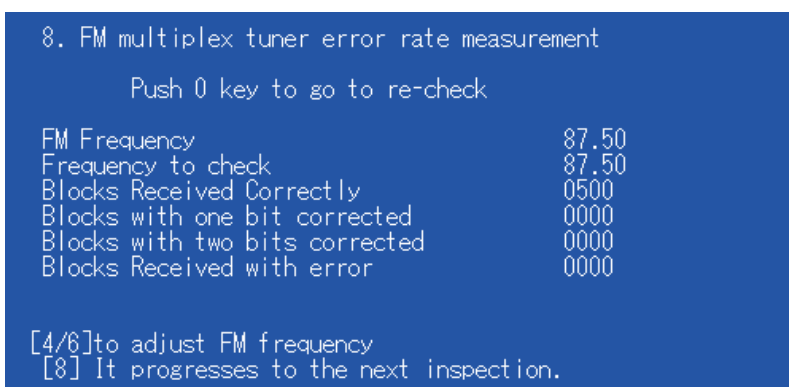
- External input image (AV1 port input image) is displayed and voice is output.
- You can move on to the next inspection by the [8] key on the DVD remote controller.

### 3-7. External Input (AV2) Check



- External input image (AV2 port input image) is displayed and voice is output.
- You can move on to the next inspection by the [8] key on the DVD remote controller.

### 3-8. FM multiplex tuner error rate measurement



- FM multiplexing error is measured.
- Default frequency is 87.5MHz.
- When entering this mode for the first time, the result of measurement at the time of test disc boot up will be displayed.
- After the measurement is taken, the frequency can be changed by the [4] and [6] keys.
- 500 blocks will be measured, and if there are 450 or more blocks without error, then it will be determined as OK.
- Only in the case of OK, you can move on to the next inspection by the [8] key on the DVD remote controller.
- You can repeat the inspection by the [0] key on the DVD remote controller.

\* For AVIC-N4/XU/UC models, this inspection is not performed and the system will move on to the next inspection.

### 3-9. GPS Receiving Status

```

9. GPS Self check
                                     2005/03/22 15:00:00
Using satellites No.
01 02 03 04 05 06 07 08
Antenna connection                OK
Receiving signal level            13.5
Dimention                        3D

```

[8] It progresses to the next inspection.

- GPS receiving status will be displayed.
- Conditions to move on to the next inspection.
  - Antenna connection is OK.
  - Data is received from one or more satellites.
  - Time is being displayed.
- When all the conditions are met, the background color will change to blue.
- Only when all the conditions are met, you can move on to the next inspection by the [8] key on the DVD remote controller. It should be noted, however, that you will not be able to move on to the next inspection if there is an error (background color is red) even if the conditions are met.
- If a command error occurs during GPS Receiving Status inspection, Command Error Details Screen is displayed. Command Error Details Screen consists of a screen which displays the real-time status of the BIOS call which is used in GPS reception, and a screen which displays command error logs of maximum 40 events, with the last – occurred command error being at the top. You can switch between them by the [5] key.
- \* For the purpose of error information retention, the system prevents you to go from the Command Error Details Screen back to the normal inspection screen. If you want to resume inspection, eject the test disc once and then insert it again.

<Supplemental explanation regarding error display>

Displayed message	Details of the Error
No connection to DRAGON	Error which occurs when communication with DRAGON is not established. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.
Command error	Time-out error for response to BIOS call. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.
Invalid data	Error which occurs when request is made while the data for response is not yet ready (not obtained from DRAGON). Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.

### 3-10. Dual Illumination Check

```

10. Dual Illumination color check

```

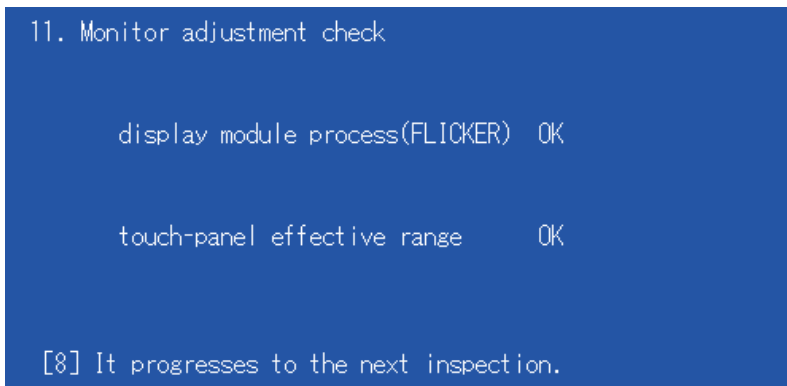
```

[0] The color of illuminations is changed.
[8] It progresses to the next inspection.

```

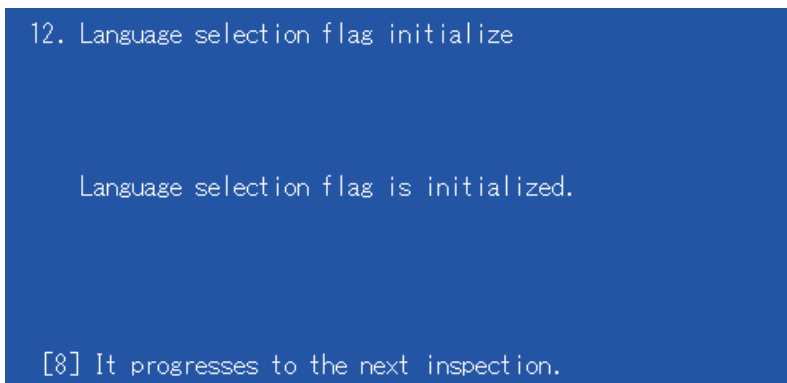
- The color of illumination is changed.
- The illumination color is toggled between Red and Blue every time you press the [0] key on the DVD remote controller.
- You can move on the next inspection by the [8] key on the DVD remote controller.

### 3-11. Monitor Adjustment Check



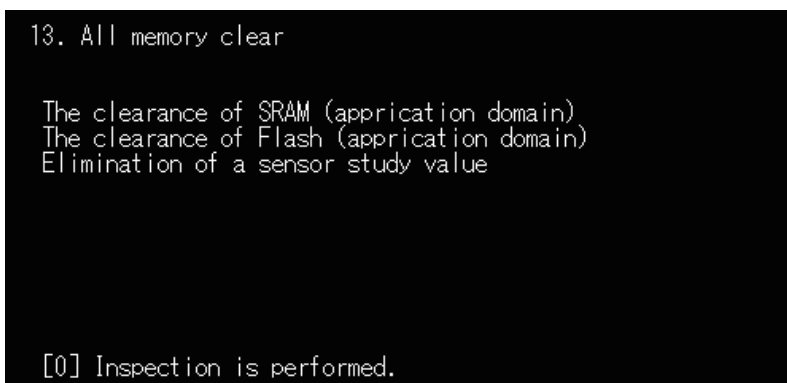
- Each status of the “flicker adjustment” and “touch panel outermost circumference correction” is obtained from the microprocessor to display the result as to whether the monitor is duly adjusted in the production line.
  - If both “flicker adjustment” and “touch panel outermost circumference correction” have been duly performed, the monitor is assumed to be adjusted. You can go to the next inspection by the [8] key.
- If either adjustment is found to be missing, the NG screen is displayed to prevent you from going to the next inspection.

### 3-12. Language Selection Flag Initialization



- When the system enters into this inspection, language selection will be set to the original setting made at the time of shipment (i.e. no setting).
- \* The setting is made to display the screen for selecting the language to be used at the initial boot up after the shipment out of the factory.
- The setting is made when the system enters into this inspection.
- You can move on to the next inspection by the [8] key on the DVD remote controller.

### 3-13. All Memory Clear (Not for service)



- SRAM (application domain) is cleared.
- FLASH (application domain) is cleared.
- Sensor learning level is cleared.
- If SRAM clear is not successful, FLASH will not be cleared.
- After the inspection screen is displayed, the above process is executed by the [0] key on the DVD remote controller.
- The result of the process is displayed.
- Only when everything is OK, you can exit the line inspection process by the [8] key on the DVD remote controller to go back to the menu screen.

## 4. Other Screens

From 4-1 – 4-13, the same inspections are performed as in the line inspection

### 4-14 Display of the Software Version

#### 14. Software version

```
System boot / OS version    0.17 / 0.17
Application version        0.010200
System ucom version        6.09
Monitor ucom version       6.07
Power ucom version         6.05
GPS program version        10.20  05/03/22  0.60
GPS model                  07 EW 1Din (0x37)
Mecha ucom version         1.1.01.01
```

[C] It returns to a menu screen.

- Software versions are displayed.
- For the “GPS model specification”, AVIC-X3/XU/EW models are indicated as “07 EW 1Din (0x37)”, while AVIC-N4/XU/UC models are indicated as “07 UC 1Din (0x38)”.

### 4-15. Picture RGB



- RGB bridge is inspected.
- The screen can be switched by the [4] and [6] keys on the DVD remote controller.
- RGB is drawn in the following pattern: R 100% → R 50% → G 100% → G 50% → B 100% → B 50%.
- Total of 6 screens will be displayed.

### 4-16. GPS Information

```
16. GPS information
3D T7 H 1.1 V 1.2      2007/02/28 01:58:50
SV  Azi Ev SNR Flag Acc Doppler SrchW
28 277 60 20.2 UYC- 2 +2756 18814
20 143 62 16.1 UY-- 3 +3328 18814
11 43 56 20.0 UY-- 2 +256 21812
19 102 18 8.0 UY-- 2 -636 18814
17 306 29 10.5 UY-- 2 +4576 18814
4 248 5 5.9 UY-- 2 +4819 2997
8 225 6 5.4 UYC- 2 -1035 18814
1 78 9 7.3 UY-- 3 +3158 2997
```

Position Sv Stat Ver & Diag Err Info

- Move the cursor using the [4] and [6] keys on the DVD remote controller.
- “Position information” will be displayed when the [5] key is pressed on the DVD remote controller while the cursor is at the “Position” position.
- “Status information” will be displayed when the [5] key is pressed on the DVD remote controller while the cursor is at the “Sv Stat” position.
- “Diagnosis information” will be displayed when the [5] key is pressed on the DVD remote controller while the cursor is at the “Ver&Diag” position.
- “Error information” will be displayed when the [5] key is pressed on the DVD remote controller while the cursor is at the “Err Info” position.
- When an inspection is performed, “status information” (the screen shown above) will be displayed first.



#### 4-17. GSP Sensitivity Measurement

```

17. GPS sensitivity measurement
Satellite No. 3 [<- -> to select satellite]
CH.   Lock   SNR(AMU)  SNR(db)
0     OK     18.5    24.6
1     OK     18.5    24.6
2     OK     18.5    24.6
3     OK     18.5    24.6
4     OK     18.5    24.6
5     OK     18.5    24.6
6     OK     18.5    24.6
7     OK     18.5    24.6
ALL   OK     Sensitivity: 23.1(db)
                DoppRMS: 0.80(Hz)

```

- GPS can be changed by the [4] and [6] keys.
- Sensitivity of the selected GPS is displayed by the [5] key.
- In case of an unsuccessful communication with the GPS unit, an error screen is displayed.

<Supplemental explanation regarding error display>

Displayed message	Details of the error
No connection to DRAGON	Error which occurs when communication with DRAGON is not established. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.
Command Error	Time out error for response to BIOS call. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.

#### 4-18. Sound Play

```

18. Sound play
ADPCM fixation 11K 1K L
ADPCM fixation 11K 1K mono
ADPCM fixation 11K 1K R
ADPCM fixation 11K 1K ste
ADPCM fixation 19K 1K L
ADPCM fixation 19K 1K mono
ADPCM fixation 19K 1K R

Guidance Vol.[0-15](level) 10

[4 / 6] Vol up/down
[C] It returns to a menu screen.

```

- Voice file (WAVE format) will be played back.
- The voice selected by the [5] key on the DVD remote controller will be played back.
- Volume level can be changed by the [4] and [6] keys on the DVD remote controller.

#### 4-19. File Maintenance

```

19. File maintenance
Total Capacity : 216.5K Remain : 185.5K
Media:SRAM Path:¥
  NATURE1.JPG 20    12.5K 05/03/22 00:00
  MAP.JPG 20      17.7K 05/03/22 00:00

[0]Media [1]Operate [9]Help

```

- Files can be copied, deleted or dumped.  
Refer to [9] HELP for how to use each function.

## 4-20. Picture Check

20. Picture check MENU 1/2

1. Plane
2. Color Bar
3. Cross Hatch
4. Sweep
5. Step
6. Ramp
7. Window
8. Mono Scope
9. Vertical Resolution Column

[5] It selects a item.

[C] It returns to a menu screen.

- A pattern is selected by the [2] and [8] keys and an image is displayed by the [5] key.

1. Plain

...You can display it in the following order by the [4] and [6] keys on the DVD remote controller: black, blue, red, pink, green, light blue, yellow, white.

2. Color bar

...White, yellow, light blue, green, pink, red, blue, and black bars will be displayed from left to right.

3. Cross hatch

4. Sweep

5. Step

6. Lamp

7. Window

8. Mono scope

9. Cycle line 1

10. Cycle line 2

11. Horizontal stripe 1

12. Horizontal stripe 2

13. Chinese character pattern

14. Map (map.jpg)

15. Natural image (nature.jpg)

16. Portrait 1 (hito1.jpg)

17. Portrait 2 (hito2.jpg)

## 4-21. Device Check (for Engineers only) (Not for Service)

21. Device check

1. SDRAM (0x48000000 - 0x4BFFFFFF)
2. SRAM (0x42000000 - 0x4203FFFF)
3. ASIC (0x43000270 - 0x43000274)
4. All Device

[C] It returns to a menu screen

- The above devices will be inspected for engineering purpose.
- On each device screen, select a pattern by the [2] and [8] keys on the DVD remote controller, start inspection by the [5] key on the DVD remote controller.

#### 4-22. All Memory Clear (for Service)

##### 22. All memory clear (for Service)

The clearance of SRAM (application domain)  
The clearance of FLASH (application domain)

[0] Inspection is performed.  
[C] It returns to a menu screen.

- SRAM (application domain) is cleared.
- FLASH (application domain) is cleared.
- If SRAM clear is not successful, FLASH will not be cleared.
- After the inspection screen is displayed, the above process is executed by the [0] key on the DVD remote controller.
- The result of the process is displayed.

#### 4-23. Initialization of a Backup Variable

##### 23. Initialization of a backup variable

A backup variable is initialized.

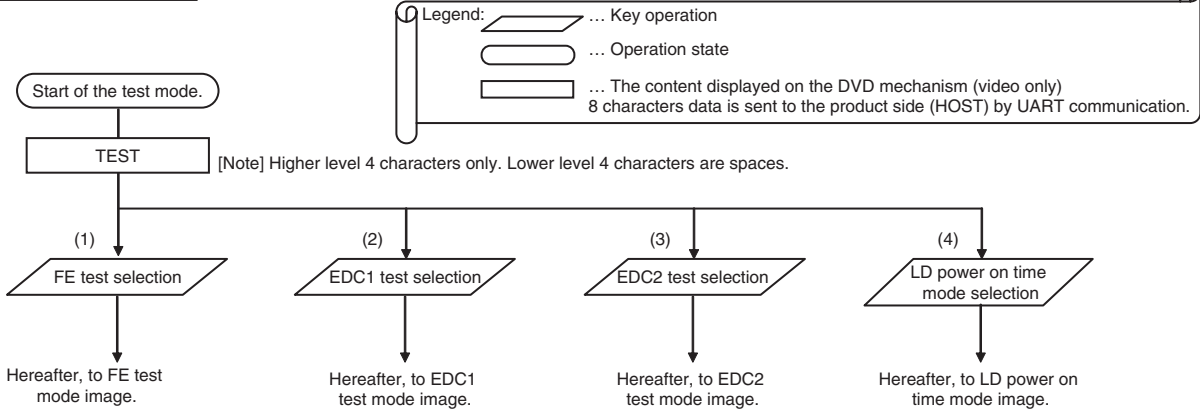
Cautions  
System reset is carried out after initialization.

[0] A backup variable is initialized.  
[C] It returns to a menu screen.

- Backup variables are initialized by the [0] key on the DVD remote controller for system reset.
- The screen will return to the menu screen by the [C] key on the DVD remote controller.

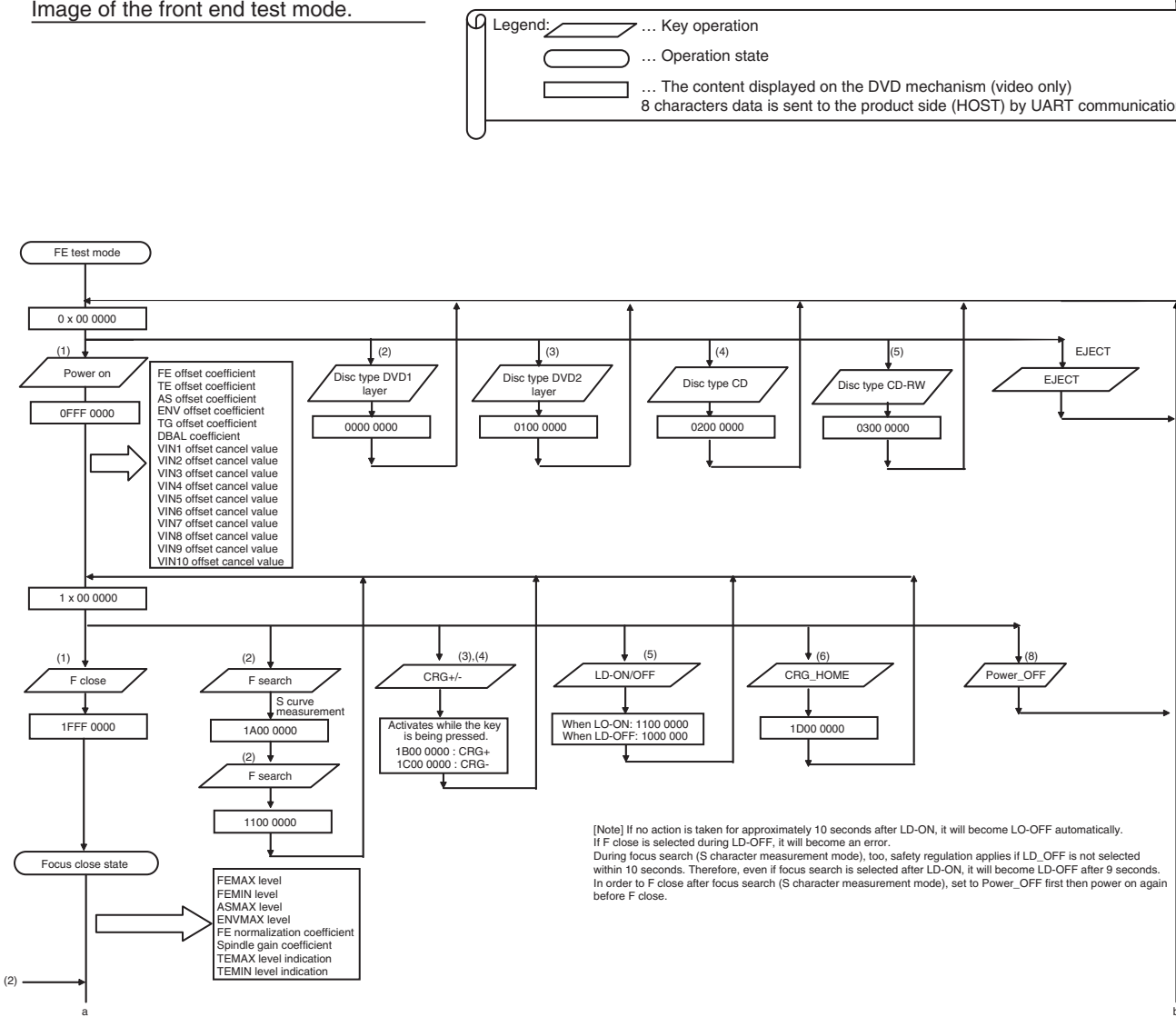
6.3 DVD TEST MODE

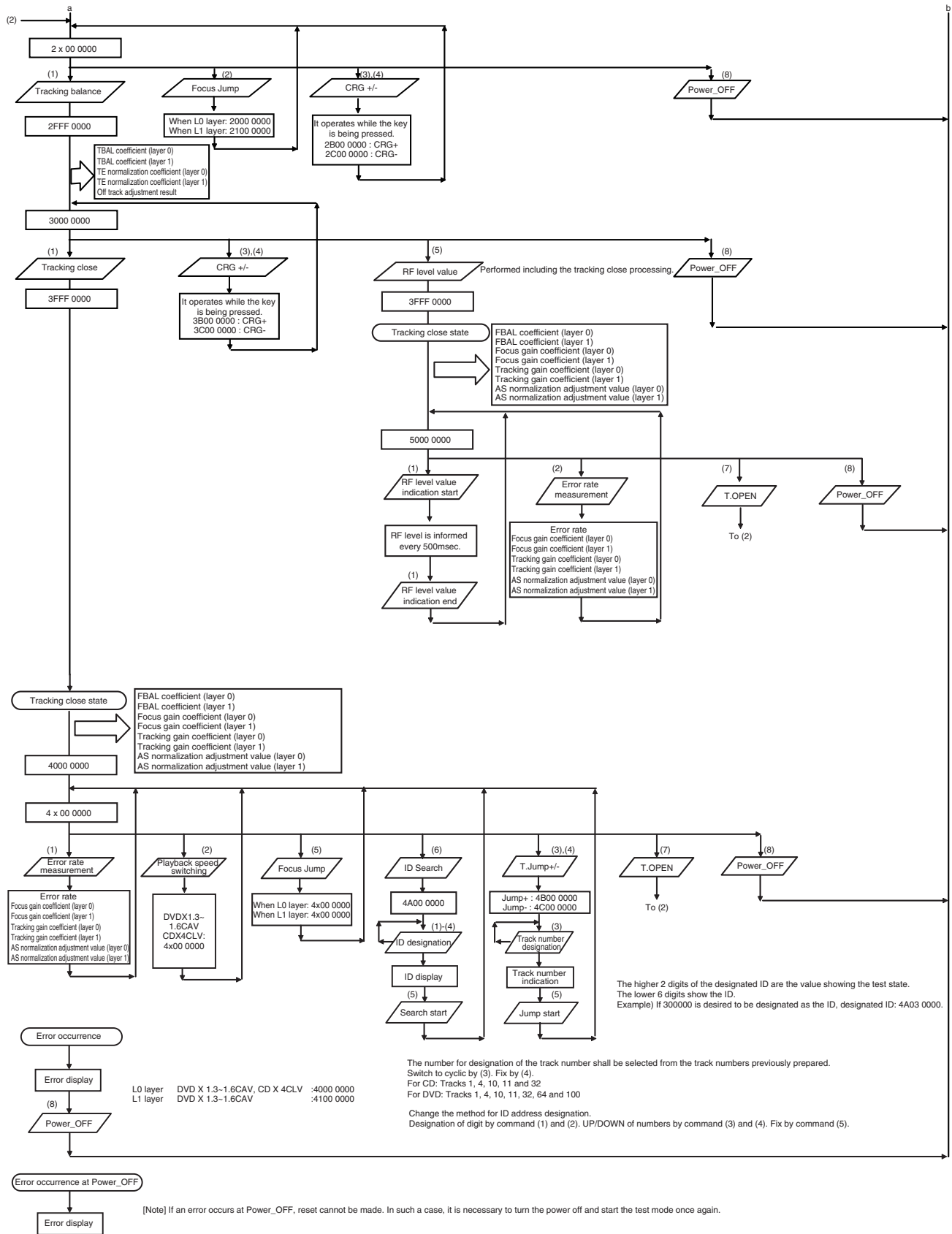
Image of the test mode.



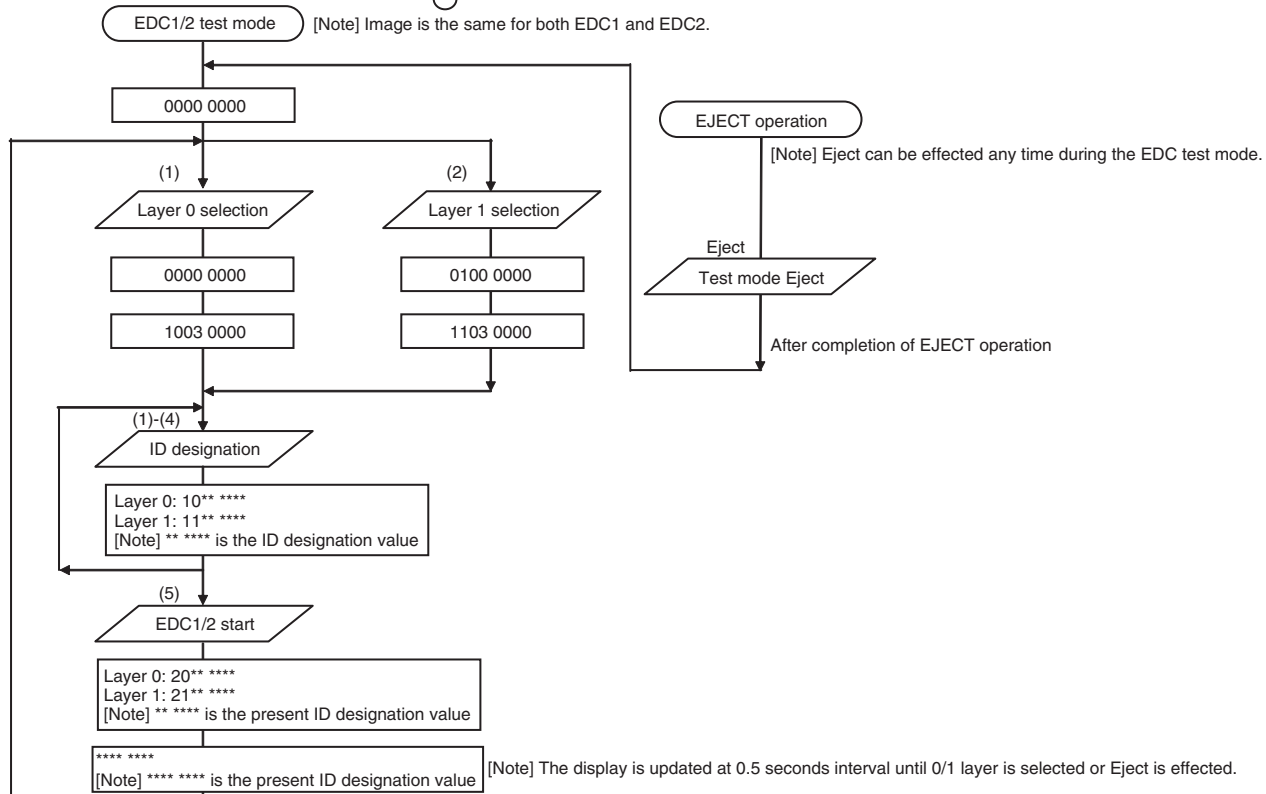
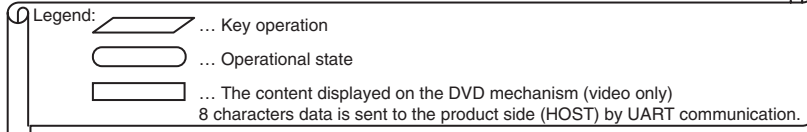
[Note] In order to move on to another test after selecting a test (FE/EDC1/EDC2), it is necessary to restart the DVD mechanism in the test mode.

Image of the front end test mode.

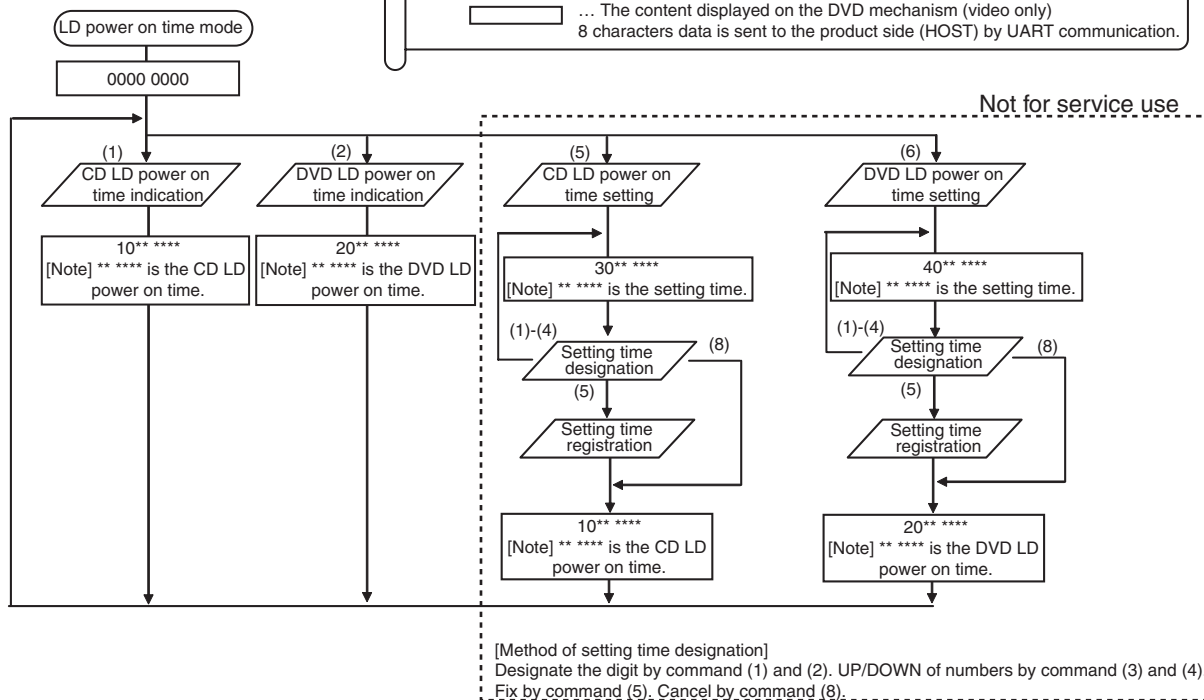
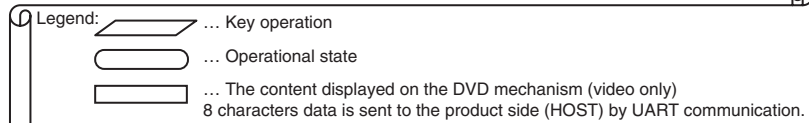




## EDC. Image of the test mode



## Image of the LD power on time mode.



[Note] If the power on time is 999999 hours or more, it is always reported as 999999 hours.

[Note] If the power on time is "E\*\*\*\*\*", the value may not be correct due to the life of the flash memory.

## 6.4 EJECT LOCK


The setup change method of "EJECT LOCK"

"EJECT LOCK"- ON: When the "EJECT" button is pressed , the disc is not ejected.  
"EJECT LOCK" is not canceled by ACC OFF and B.UP OFF and SYSTEM RESET  
(Press the "RESET" button).  
"EJECT LOCK" is canceled by reoperations(① to ⑥).  
(Or it's canceled by the backupmemory initialization function in NAVI TEST MODE.)

"EJECT LOCK"- OFF: When the "EJECT" button is pressed , the disc is ejected.

If the following operations(① to ⑥) are performed, a setup of "EJECT LOCK" switches between ON and OFF.

- ① Press the "LEFT" button.
- ② Press the "RESET" button, continuing pressing the "LEFT" button.
- ③ Wait for FLAP to stop, continuing pressing the "LEFT" button.
- ④ Press the "MENU" button , continuing pressing the "LEFT" button.
- ⑤ Releasing the "MENU" button , continuing pressing the "LEFT" button.
- ⑥ Releasing the "LEFT" button.

\* "LEFT" button =  button

## 6.5 SLAVE TEST MODE


The setup change method of "SLAVE TEST MODE"

"SLAVE TEST MODE"-ON: The test mode of each source can be used. While a setup is test mode, a touch key for test modes is displayed in each source.  
Source with a test mode:iPOD, IP-BUS(CDM, DVDM, BT TEL, XM, USB, EXT1, EXT2)  
"SLAVE TEST MODE" is canceled by ACC OFF.

"SLAVE TEST MODE"-OFF:The test mode of each source can not be used.

If the following operations(① to ⑥) are performed, a setup of "SLAVE TEST MODE" switches to ON.

- ① Press the "RIGHT" button.
- ② Press the "RESET" button, continuing pressing the "RIGHT" button.
- ③ Wait for FLAP to stop, continuing pressing the "RIGHT" button.
- ④ Press the "MAP" button , continuing pressing the "RIGHT" button.
- ⑤ Releasing the "MAP" button , continuing pressing the "RIGHT" button.
- ⑥ Releasing the "RIGHT" button.

\* "RIGHT" button =  button

# 7. DISASSEMBLY

## ● Removing the Grille Assy (Fig.1)

- ➡ **1** Remove the two screws and then remove the Holder.  
Disconnect the connector.
- ➡ **2** Remove the two screws and then remove the Grille Assy.

## ● Removing the Case

- ➡ **3** Remove the six screws.(Fig.1)
- ➡ **4** Remove the screw and then remove the Case.(Fig.1)

Note) Inside the product there is a flexible substrate that connects the Case and the Bracket.  
Be very careful and do not give it a strong pull when removing the Case, otherwise it may be torn.

- ➡ **5** Remove the four screws. (Fig.2)

Disconnect the connector and then remove the Bracket. (Fig.2)  
Remove the Case.(Fig.1)

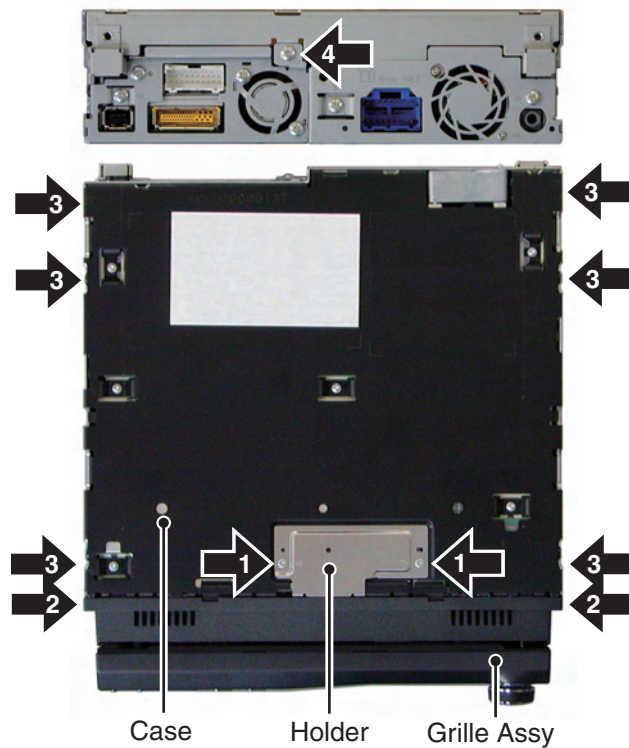


Fig.1

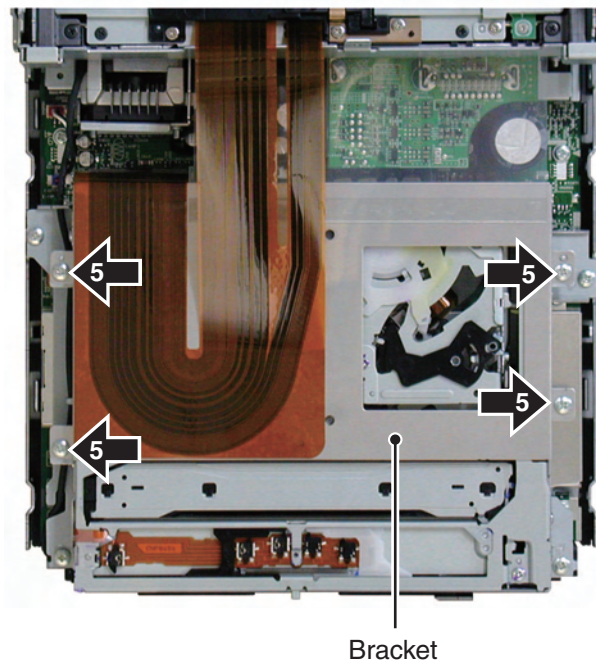


Fig.2



### ● Removing the DVD Mechanism Module (Fig.3)

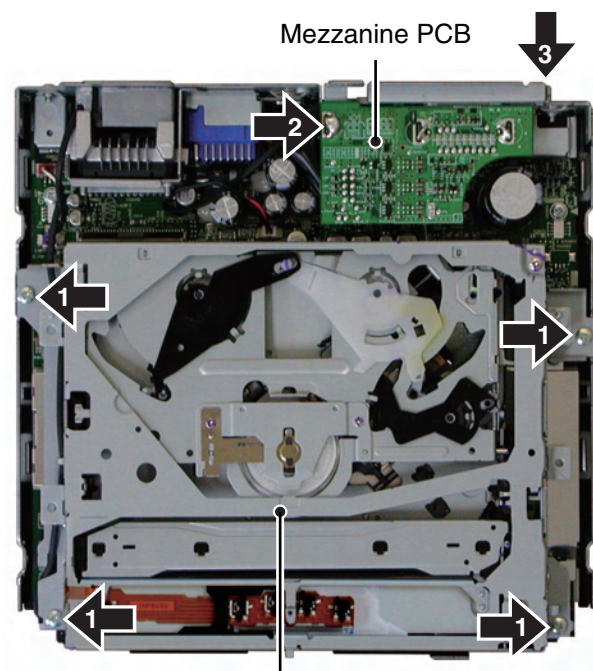
- ➡ 1 Remove the four screws.

Disconnect the connector and then remove the DVD Mechanism Module.

### ● Removing the Mezzanine PCB (Fig.3)

- ➡ 2 Straighten the tab at location indicated.
- ➡ 3 Remove the screw.

Disconnect the connector and then remove the Mezzanine PCB.

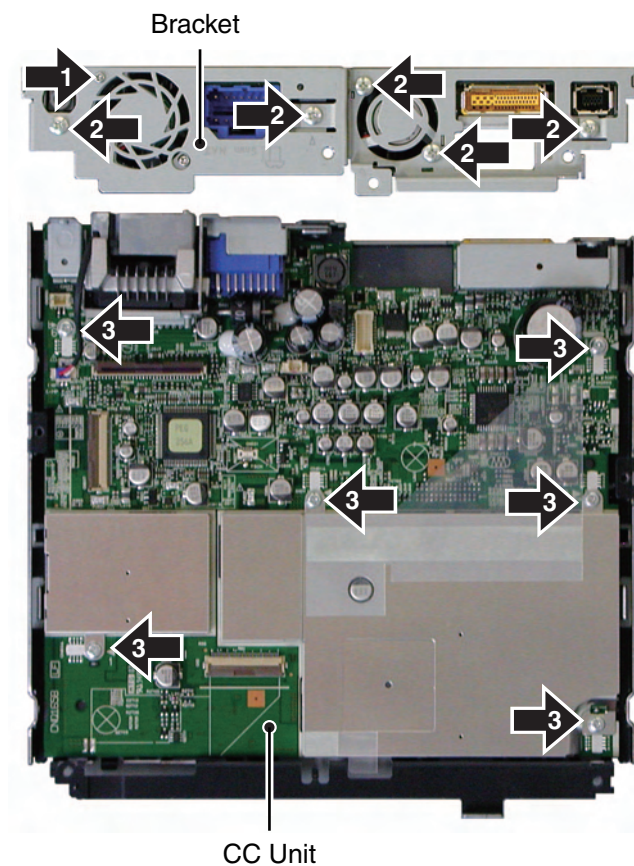


DVD Mechanism Module

Fig.3

### ● Removing the CC Unit (Fig.4)

- ➡ 1 Remove the screw.
- ➡ 2 Remove the five screws and then remove the Bracket.
- ➡ 3 Remove the six screws and then remove the CC Unit.



CC Unit

Fig.4

## ● Removing the Case (Fig.5)

A

- 1** Remove the two screws and then remove the Lever.
- 2** Remove the three screws and then remove the Cover.
- 3** Remove the five screws and then remove the Cover.

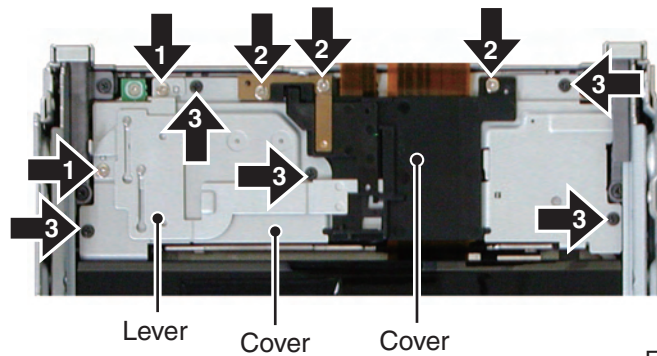


Fig.5

B

## ● Removing the Display Assy

- 1** Remove the three screws.(Fig.6)

Disconnect the connector and then remove the Motor Unit.

- 2** Remove the two screws and then remove the two Holders.(Fig.6)

C

- 3** Pull out the Display Assy in the arrow indicated direction.(Fig.6)

- 4** Pull out the Display Assy to the proper position (indicated on Fig. 7). And then, push the white knob (indicated on the figure) and draw out the Display Assy.

D

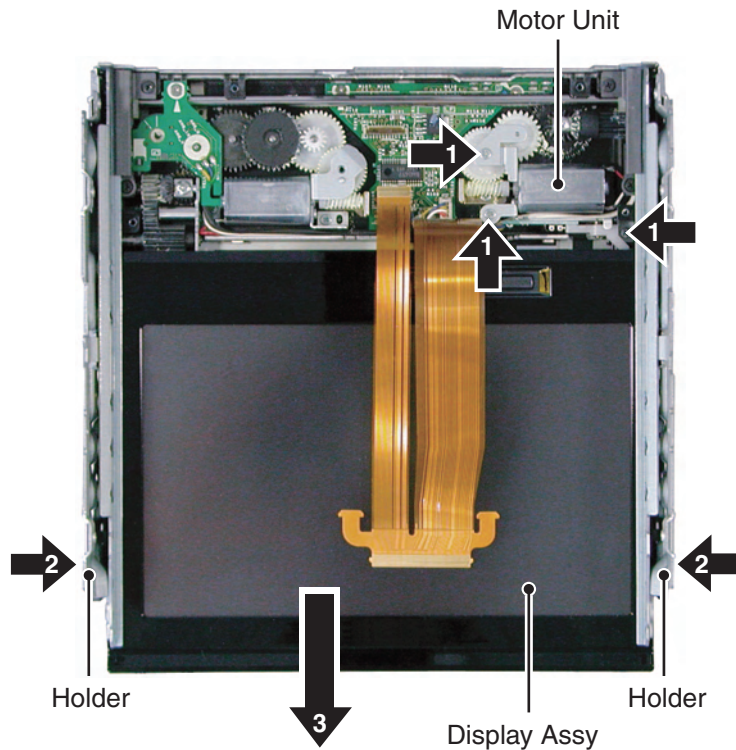


Fig.6

E

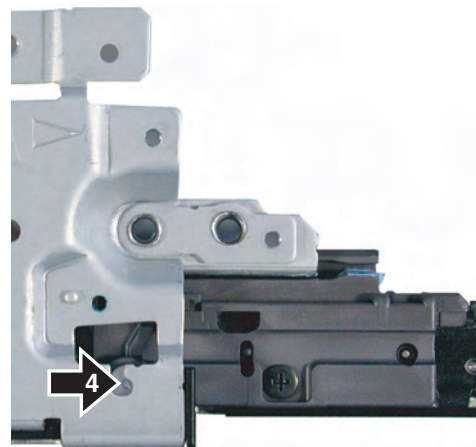


Fig.7

F

### ● Removing the Display Assy (Fig.8)

- ➡ **1** Remove the two screws and then remove the Holder.
- ➡ **2** Remove the four screws and then remove the Cover Unit.
- ➡ **3** Remove the four screws.

Disconnect the connector and then remove the Display Assy.

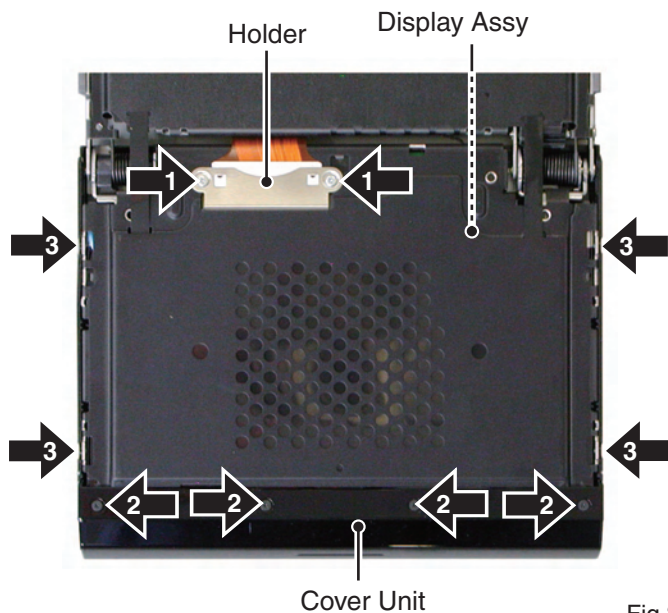


Fig.8

### ● Removing the Monitor PCB (Fig.9)

- ➡ **1** Straighten the tabs at two locations indicated.
- ➡ **2** Remove the screw.

Disconnect the connector and then remove the Monitor PCB.

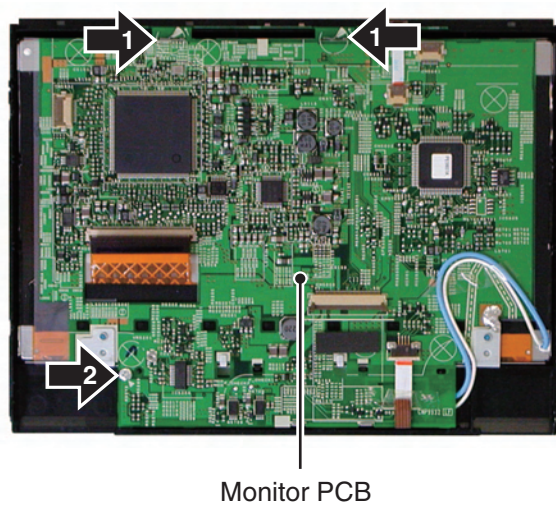


Fig.9



### ● Removing the Case (Fig.10)

A

➡ 1 Remove the three screws.

B

➡ 2 Remove the seven screws and then remove the Case.

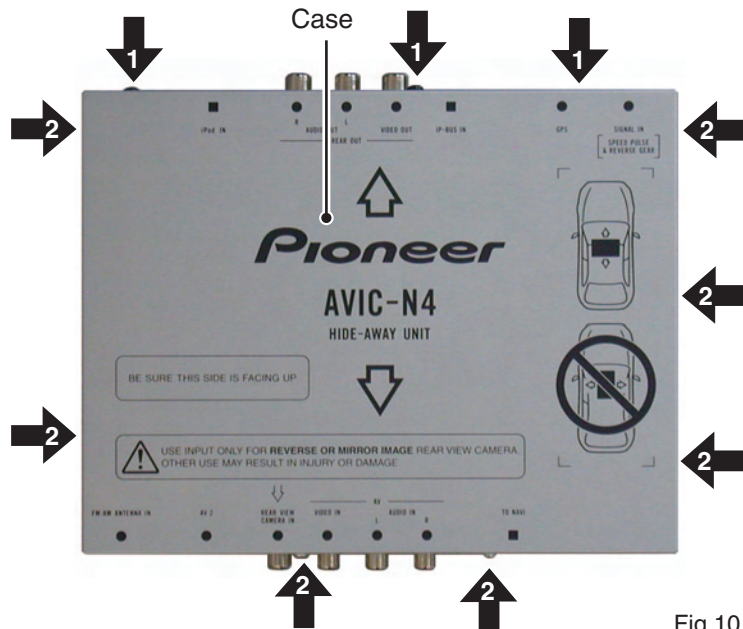


Fig.10

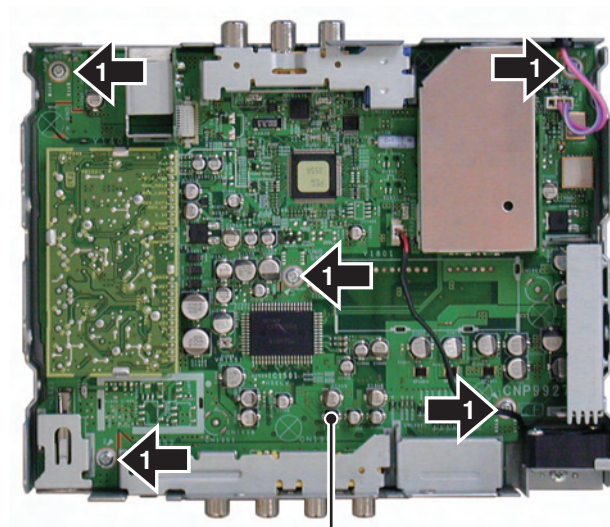
### ● Removing the Mother Tuner Unit (Fig.11)

C

➡ 1 Remove the five screws.

Disconnect the connector and then remove the Mother Tuner Unit.

D



Mother Tuner Unit

Fig.11

E

F

### ● How to hold the mechanism section (Fig 1)

1. Hold the main frame and the top frame.
2. As the mechanical strength of the front part of the top frame is not strong, do not hold this part.
3. Do not touch the switches provided on the top face of the mechanism section.
4. Be careful not to pull the flexible PCB on the side face.

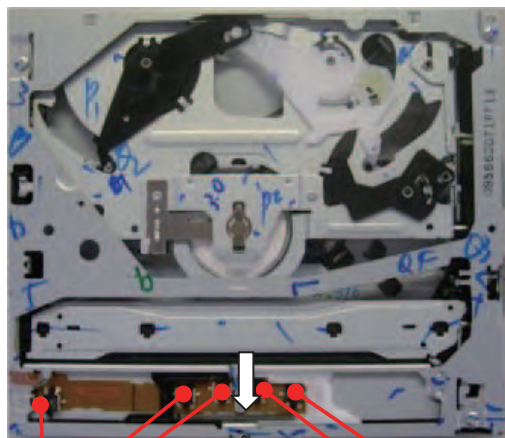


Fig 1

Do not touch this part.  
Do not touch this part.  
Do not touch this part.

### ● How to remove the module PCB (Fig 2, Fig 3)

1. Put the mechanism section in locked state (disc load standby position).
2. Hold the mechanism module with its top face down.
3. Make the lands at 2 locations on the pick up flexible PCB short.
4. Disconnect the connectors of the pick up flexible PCB and the SPDL flexible PCB.  
(Be sure to disconnect the connectors as the flexible PCB will be damaged if the PCB is removed without removing the flexible PCB.)
5. Remove the solder joint of the lead wire of the load motor and the clamp SW.
6. Remove the two screws, and then remove the module PCB.  
(Lift up point A slightly and remove it toward B direction. Be careful as the point C is connected with a flexible PCB.)
7. Disconnect the connector of the 8-12 detection flexible PCB from the PCB.

Fig 2

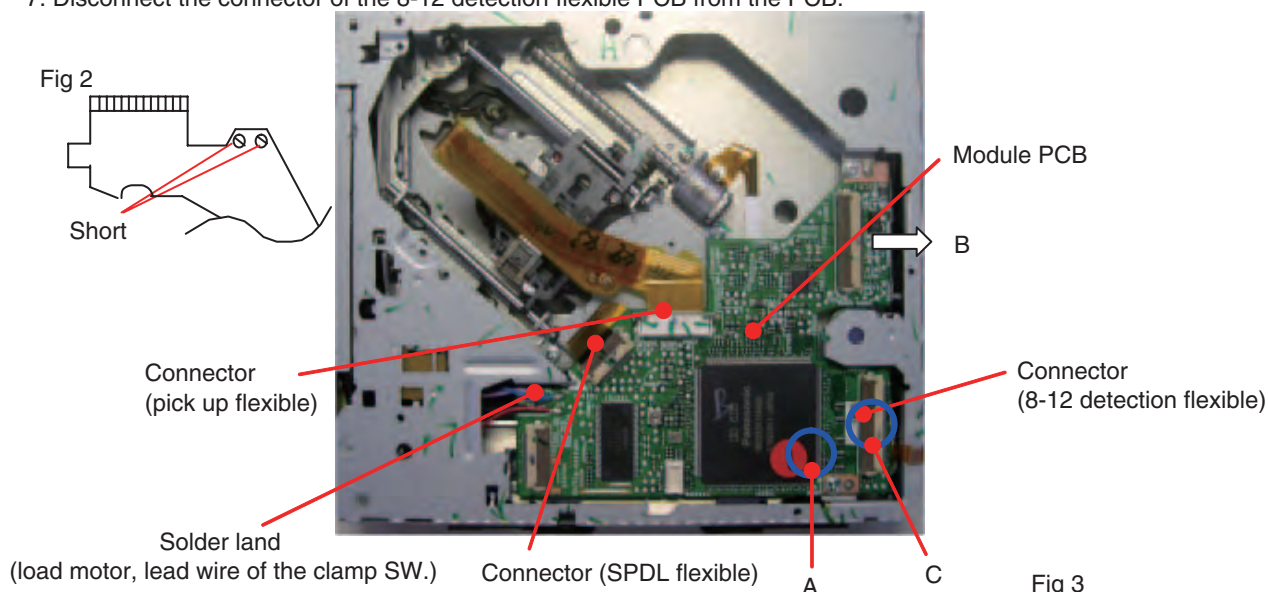
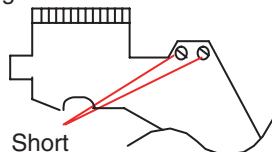


Fig 3

### ● How to remove the CRG motor assy (Fig 4)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Remove the Mylar tape.
3. Remove the flexible PCB of the CRG motor from the connector of the spindle motor.
4. Remove the two screws, and then remove the CRG motor assy.

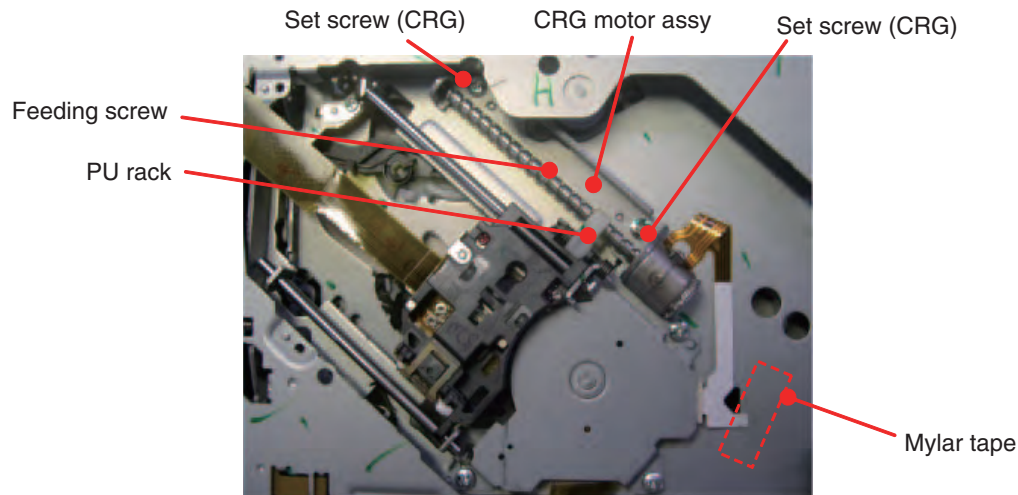


Fig 4

### ● How to remove the PU unit (Fig 5)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Hang the main shaft holding spring to the CRG chassis temporary hanger.
3. Remove the CRG motor assy according to the instructions in "How to remove the CRG motor assy".
4. Remove the holding plate spring of the main shaft.
5. While lifting up the tip of the pick up rack, slide the main shaft, and remove the PU unit.

(Note) When mounting the PU unit again, make sure to do the adjustments of the devices mounted thereon according to the descriptions of the service manual. Furthermore, make sure to hang the main shaft holding spring permanently.

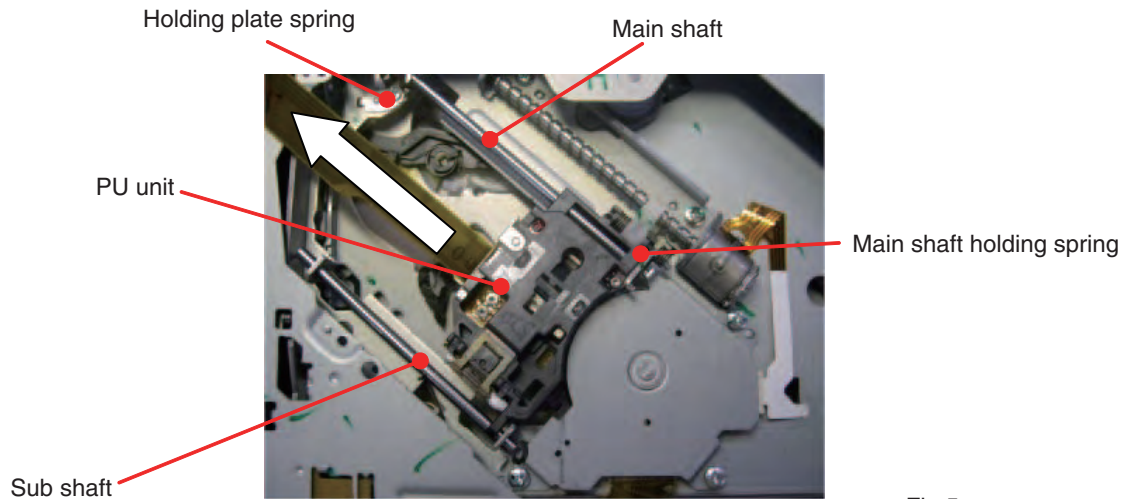


Fig 5

CRG chassis temporary hanging section



Temporary hanging



Permanent hanging

## 8. EACH SETTING AND ADJUSTMENT

### 8.1 DVD ADJUSTMENT



#### 1) Precautions

This product uses 5 V and 3.3 V as standard voltages. The electrical potential that is the reference for signals, is not GND, but VREF (approximately 2.2 V) and VHALF (approximately 1.65 V).

During product adjustments, if the reference voltage is mistakenly taken as GND, and a grounding contact is made, not only would it be impossible to measure the accurate electrical potential, but also the servo motor would malfunction, resulting in the application of a strong impact on the pick up. The following precautionary measures should be strictly adhered to, in order to avoid such problems.

The reference voltage and GND should not be confused when using the minus probe of a measurement device. When an oscilloscope is being used special care should be taken to make sure that the reference voltage is not connected to the probe of ch1 (on the minus side), while the probe of ch2 (on the minus side), is connected to GND. Further, since the body frame of most measurement devices have the same electrical potential as the minus side of the probe, the body frame of the measurement device should be set to floating ground.

If the reference voltage is connected to GND by mistake, turn the regulator OFF immediately, or turn the power OFF

- Remove the filters and wires used for measurements only after the regulator has been turned OFF.
- For stable circuit operation, keep the mechanism operating for about one minute or more after the regulator is turned on.
- Whenever the product is in the test mode, the software will not take any protective action. For this reason, special care should be taken to make sure that no mechanical or electrical shock could be applied to the product when taking measurements in the test mode.
- Whenever the EJECT key is pressed to eject the disk, no other keys, other than the EJECT key, should be pressed until the disk eject action has been completed.
- If the product hangs up turn the power OFF immediately.
- Laser diodes may be damaged, if the volume switch for the laser power adjustment of the pick up unit, is turned.

Attention)

- Test mode stopping procedure  
Reset or ACC OFF-ON.



## ● SKEW adjustment

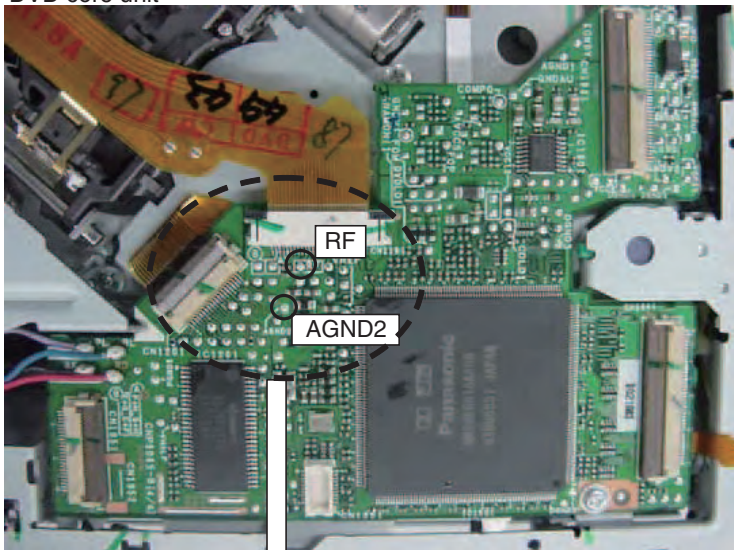
When one of the following replacements has taken place, SKEW adjustment for the pick up will be required.

- (1) Replacement of the pick up unit
- (2) Replacement of the spindle motor
- (3) Replacement of the carriage chassis
- (4) Replacement of the main shaft of the pick up unit
- (5) Replacement of the sub shaft of the pick up unit

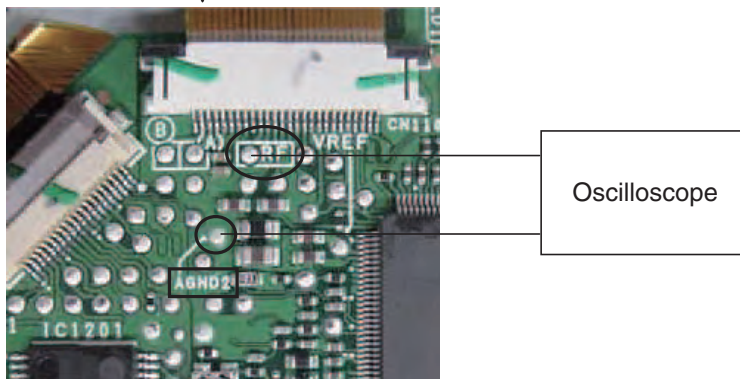
- Measurement equipment and tools/jigs: Oscilloscope  
Driver for SKEW adjustment — TORX driver (T2) (GGK1095)  
Bond for fixing the SKEW (GEM1033)  
Bond for locking the screw (Locking agents(1401M : produced by THREE BOND))
- Disc used: GGV1018

- Measurement reference: AGND2
- Measurement point: RF

- Connection drawing  
DVD core unit



Enlargement



Symptom in case the adjustment is not adequate: Worsening of the error rate  $10^{-3}$   
(Normally  $10^{-4}$  or less.)  
Large RF jitter  
RF waveform distortion  
Tracking drawing/Unstable servo

\* Caution: Do not look into the laser light during adjustment.



There are two methods for adjustment, a method whereby the adjustment is made while monitoring the RF waveform using the oscilloscope (method ①) and a method whereby the adjustment is made while checking the RF level in value by OSD (method ②).

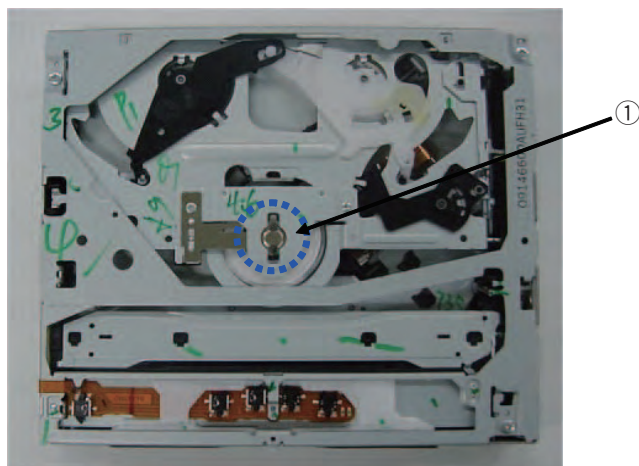
The adjustment procedure is shown below. Refer to the paragraph for the service test mode regarding entering of the test mode and the operation procedure.

#### Adjustment procedure:

1. Turn the DVD mechanism module upside down so that the pick up can be adjusted.  
When the module is turned upside down, there is a possibility that the disc is rubbed.  
So, first place a coin with the thickness of approximately 1.5 mm on a desk, and set the module upside down in a way that section ① in the illustration below comes right above the coin.
2. Install the pick up. (Refer to the section regarding removal of the pick up from the mechanism unit.)  
As for the precautions in handling the pick up, refer to the precautions in handling the PU as described below.
3. Method ①:  
Connect the oscilloscope by referring to the connection drawing so that the RF signal can be monitored with AGND2 as the reference.  
Method ②:  
There is no need for setting of any equipment. Proceed to step 4.
4. Turn the power ON, and load the disc for adjustment.(GGV1018)
5. After setting the disc type to DVD layer 1 in the front end test mode, turn the power ON, and move the pick up to the inner periphery. (CRG – Home)
6. Turn the LD ON.
7. Set to focus close, and make auto adjustment for all items under that state, then set to tracking close.  
And make auto adjustment for all items under that state as well.
8. Make an intermediate periphery (ID: 100 000) search, and move the PU to intermediate periphery.
9. Method ①:  
Proceed to step 10.  
Method ②:  
After setting to Tracking Open, make all auto adjustments, and set to Tracking Close this time with a command that can be RF displayed. Make auto adjustment for all items under that state as well.
10. Use TORX driver (T2) (GGK1095) for the following.  
Method ①:  
While monitoring the RF waveform on the oscilloscope, turn SKEW adjustment screw A just a little bit in a way that the level will reach the maximum.  
While the pick up is at the intermediate periphery, turn SKEW adjustment screw B just a little bit in a way that the level will reach the maximum.  
While the pick up is at the intermediate periphery, turn SKEW adjustment screw A just a little bit in a way that the level will reach the maximum.  
(Make adjustment in the order of A -> B -> A, Please end the each adjustment by turning screw clockwise. )  
Method ②:  
While monitoring the RF level value on the OSD display, turn the SKEW adjustment screw A just a little bit in a way that the level will reach the maximum.  
While the pick up is at the intermediate periphery, turn SKEW adjustment screw B just a little bit in a way that the level will reach the maximum.  
While the pick up is at the intermediate periphery, turn SKEW adjustment screw A just a little bit in a way that the level will reach the maximum.  
(Make adjustment in the order of A -> B -> A, Please end the each adjustment by turning screw clockwise. )  
If the error is not good, please perform Method ① again.
11. Turn the power OFF in the test mode, and after confirming that the disc has stopped, eject the disc.
12. Apply adhesive for fixing the SKEW and lock the screw.  
Refer to the illustration below for the adhesion points.

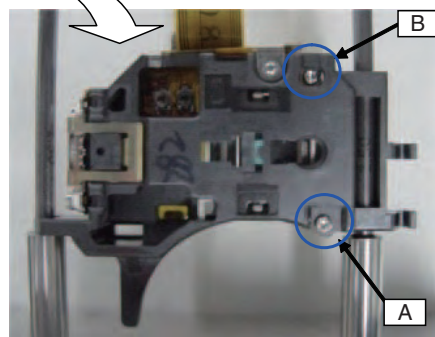
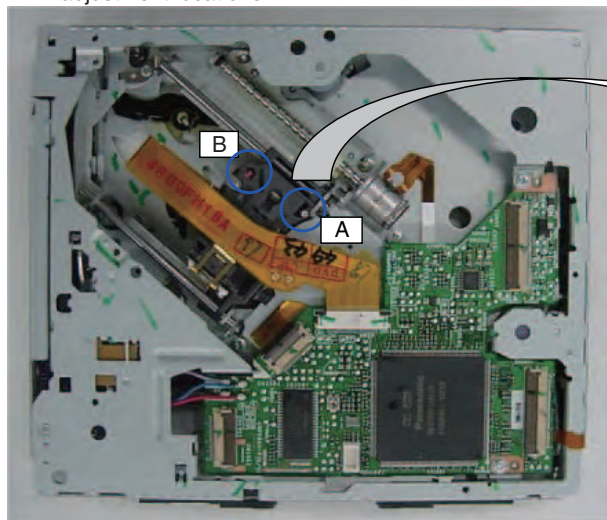
A

B



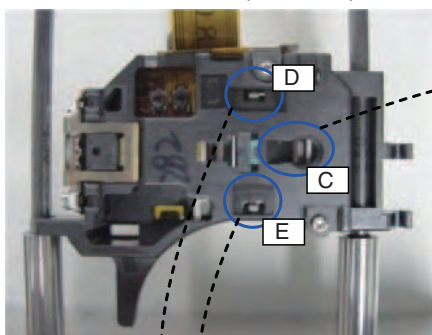
SKEW adjustment locations.

C



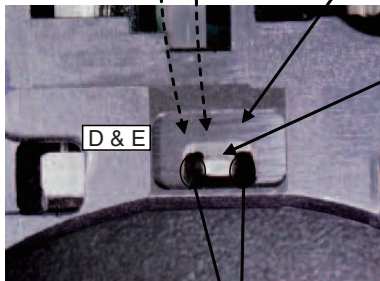
D

SKEW adhesive locations(GEM1033)



E

TAN-SKEW adhesive locations

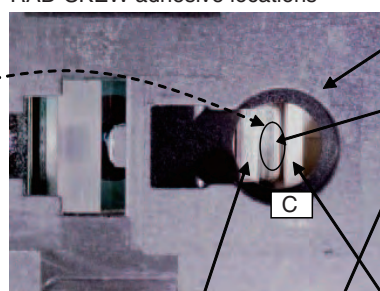


F

Adhesive application locations

\* Caution: Make a cross link to both the case section and the sheet metal section.

RAD-SKEW adhesive locations



Sheet metal (yoke base) section

PU case

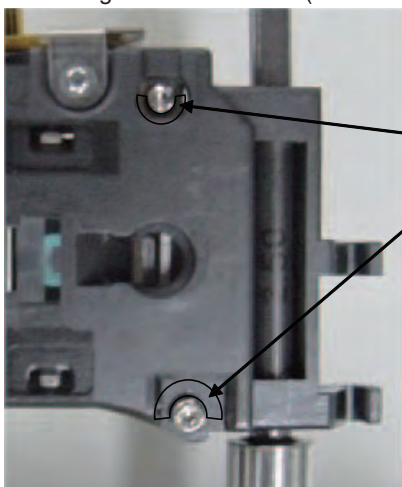
Adhesive application locations

Resin (suspension support) section

Cross section of R-SKEW adhesive locations.

\* Caution: Make a cross link to both the resin section and the sheet metal section.

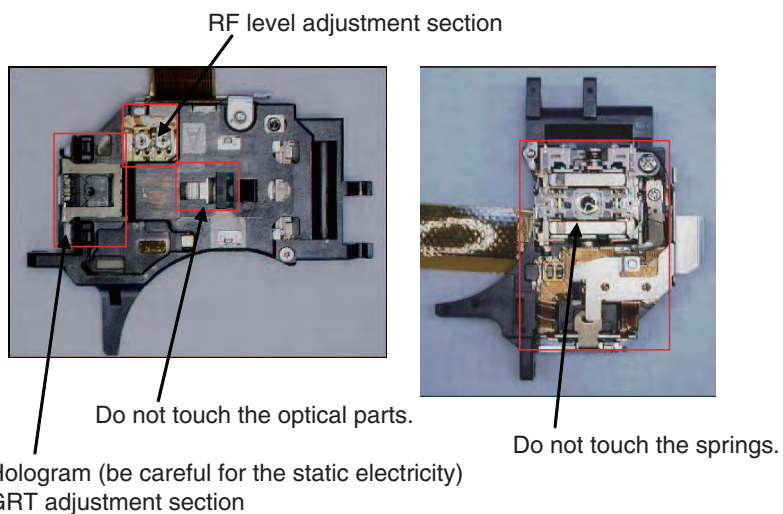
Screw locking adhesive location(1401M : produced by THREE BOND)



Screw locking adhesive location  
Apply the locking agent for more than half of the screw head circumference.  
\* Caution: The locking agent shall not overflow to outside of the PU case.

Precautions in handling the PU.

\* Caution: Do not touch the shaded section in the drawing below.



1 2 3 4

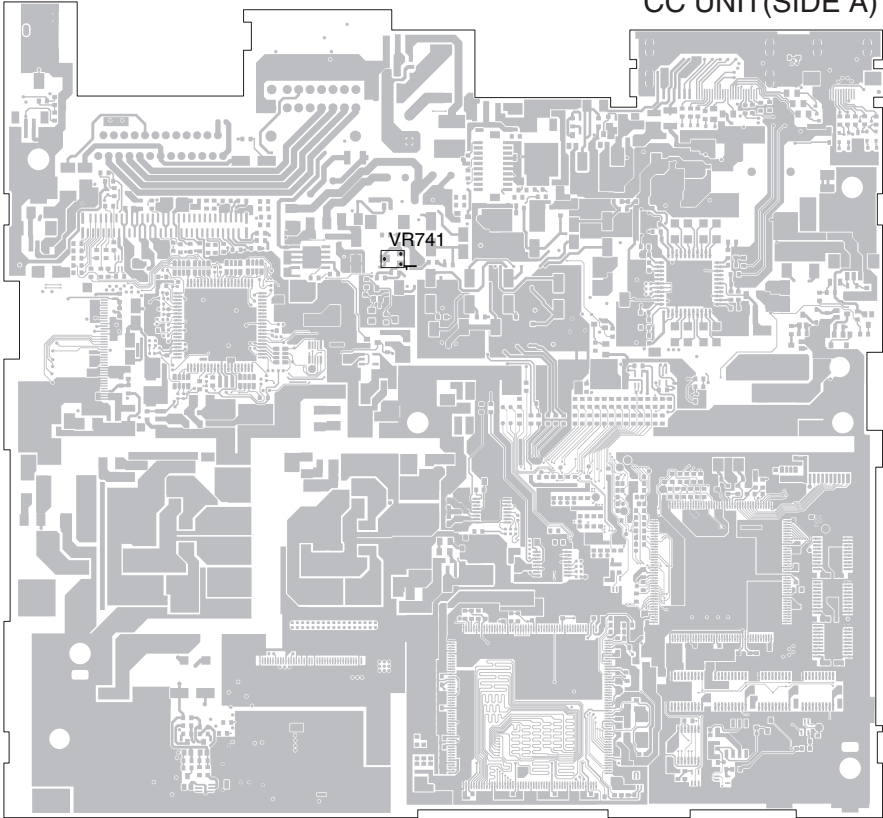
## 8.2 CC UNIT ADJUSTMENT



● Adjustment point

A

CC UNIT(SIDE A)

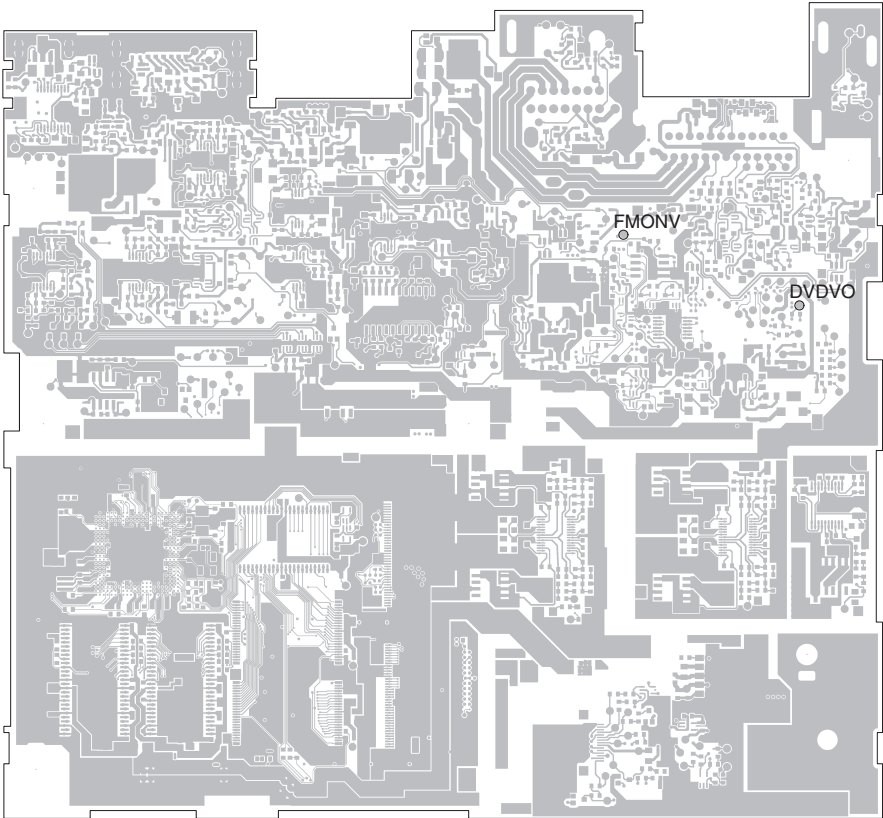


B

C

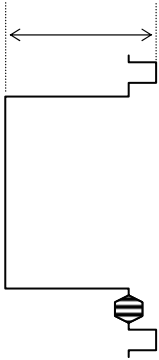
D

CC UNIT(SIDE B)



E

F

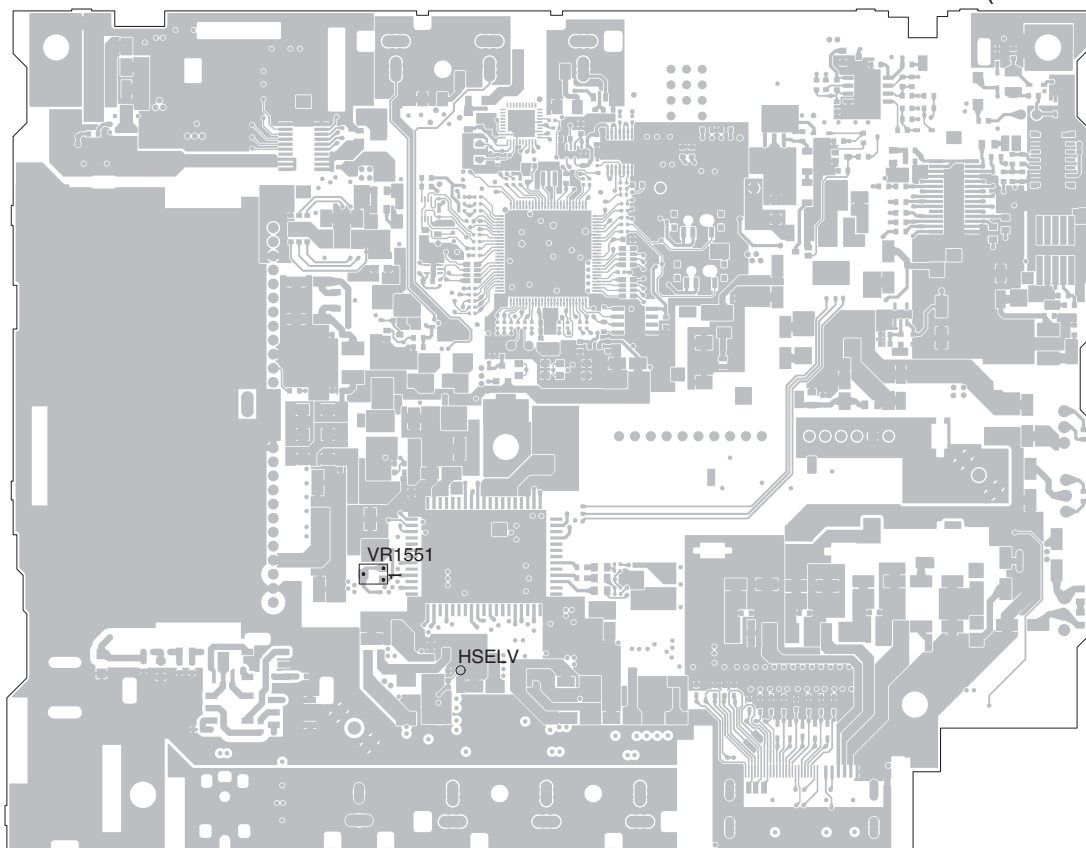
Step	Item	Mode	Input signals (Input test pin, standard, other conditions)	Output signals (Measurement test pin, circuit description)	Measuring instrument	Standard instructions (Other instructions)	Adjusting element
1	Image adjustment/inspection	Image					
1-1	Image level adjustment		Apply a white 100% image signal (1Vp-p) to TP DVDVO, and set the monitor image output to DVD. Receive 75 Ω from the signal generator.	Measuring point : TP FMONV (To be terminated in 10 kΩ or above) 	Oscilloscope	1.0±0.05 Vp-p	VR741

## 8.3 MOTHER PCB ADJUSTMENT

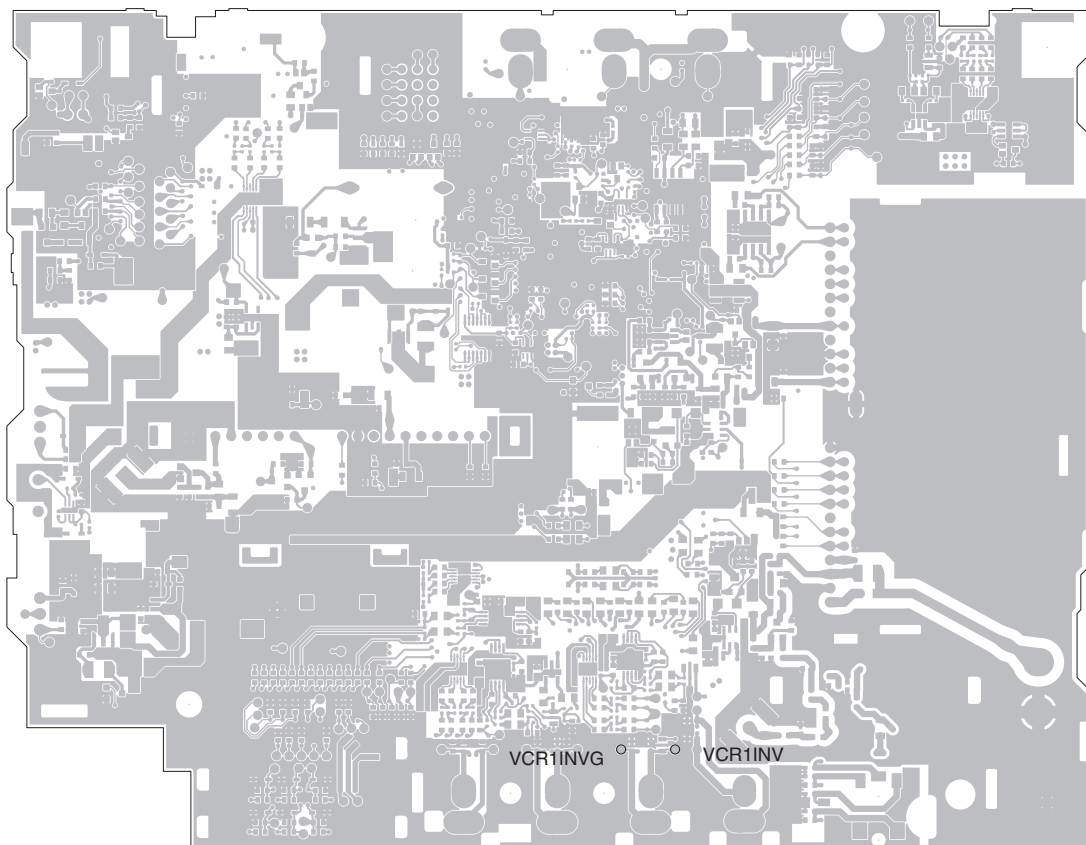


● Adjustment point


MOTHER PCB(SIDE A)



MOTHER PCB(SIDE B)



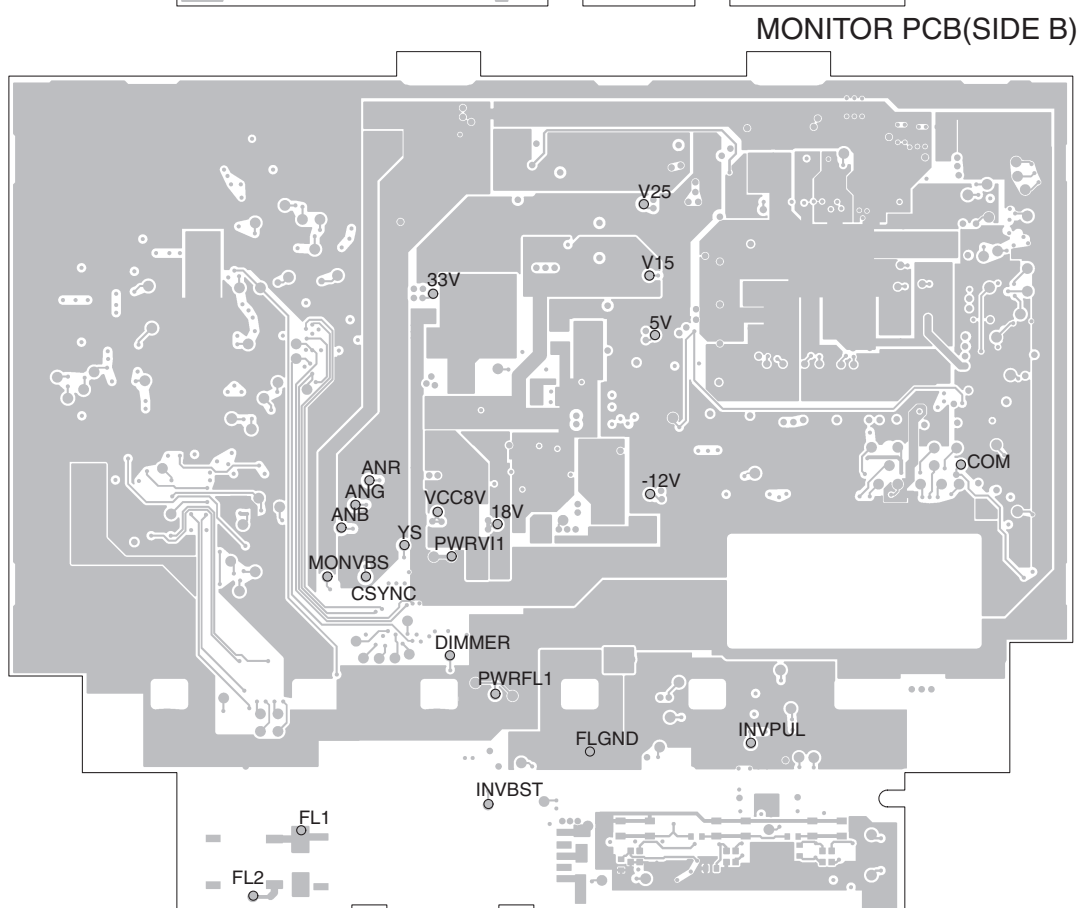
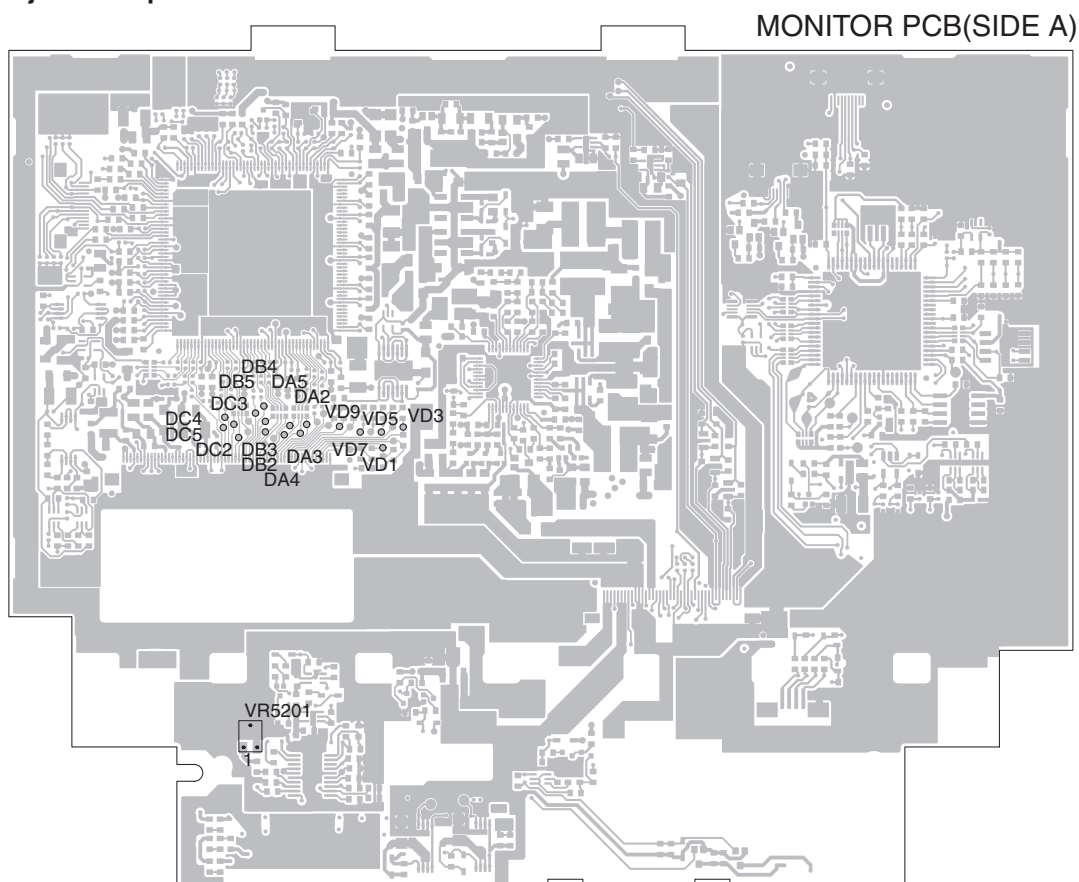


Step	Adjustment item	Mode	Input signals (Input test pin, standard, other conditions)	Output signals (Measurement test pin, wave pattern)	Measuring instruments	Standard (Other instructions)	Adjusting element
1	Select-Image level adjustment	Image	Input test pin: VCR1INV(Signal line) VCR1INVG(Signal GND) 100 IRE (white 100%) 1.0 Vp-p (Input signal is terminated in 75 Ω)	Measurement test pin:HSELV 	Oscilloscope	<ul style="list-style-type: none"> <li>1.00 ± 0.05 Vp-p The level is measured between the sync tip and 100IRE (wave top)</li> <li>To be terminated in 75 Ω</li> </ul>	VR1551

## 8.4 MONITOR PCB ADJUSTMENT



● Adjustment point



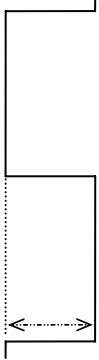
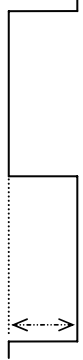
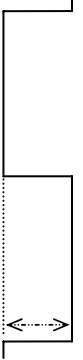

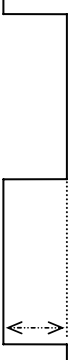



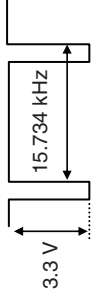
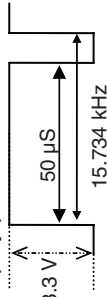
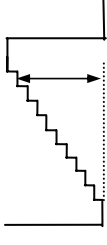
**Notes:**

When the power supply for TC90A96BFG is OFF, be careful not to apply any voltage to its terminals except for IIC lines(SDA and SCL).  
The IIC lines can accept a maximum of 5V.

No	Adjustment Item	Input Signal	Measurement Point	Adjustment Point	Description of Adjustment	Remarks
1	3.3 V Power supply verification	14.4v to TP PWRV11	TP 33V	—	V33 = $3.3 \pm 0.25$ V	
2	2.5 V Power supply verification	ditto	TP V25	—	V25 = $2.5 \pm 0.15$ V	
3	1.5 V Power supply verification	ditto	TP V15	—	V15 = $1.5 \pm 0.08$ V	
4	5 V Power supply verification	ditto	TP 5V	—	V5 = $4.9 \pm 0.3$ V	
5	8 V Power supply verification	ditto	TP VCC8V	—	V8 = $8.0 \pm 0.5$ V	
6	18.5 V Power supply verification	ditto	TP 18V	—	V18 = $18.5 \pm 0.8$ V	
7	-12 V Power supply verification	ditto	TP -12V	—	VM12 = $-12.0 \pm 0.6$ V	

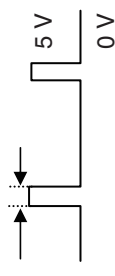
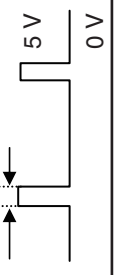
A  
B  
C  
D  
E  
F

No	Adjustment Item	Input Signal	Measurement Point	Adjustment Point	Description of Adjustment	Remarks
8	Vcom Amplifier Output Amplitude Adjustment	Not defined	TP COM	COM AMP AJ Set value (COMAC output of monitor microprocessor)		Measure with LCD panel connected  [Symptoms of poor adjustment] • Bright Screen (Small amplitude) • Dark Screen (large amplitude)
9	Gradation voltage amplitude verification V1	Not defined	TP VD1	—		Measure with LCD panel connected
10	Gradation voltage amplitude verification V3	Not defined	TP VD3	—		Measure with LCD panel connected
11	Gradation voltage amplitude verification V5	Not defined	TP VD5	—		Measure with LCD panel connected
12	Gradation voltage amplitude verification V7	Not defined	TP VD7	—		Measure with LCD panel connected
13	Gradation voltage amplitude verification V9	Not defined	TP VD9	—		Measure with LCD panel connected

No	Adjustment Item	Input Signal	Measurement Point	Adjustment Point	Description of Adjustment	Remarks
14	Preparation for image check	Input of sync signal to TP CSYNC				0-3.3 V logic level input (Synchronized section 0 V)
15	RGB digital output check	Input of White-100% signal to TP ANR, ANG, ANB (0.70 Vpp ± 1%)	TP DA2 - DA5 TP DB2 - DB5 TP DC2 - DC5		<p>Check that each output keeps Hi level (3.3 V) during the image display period.</p> 	During OSD display in microprocessor test mode, the output of the area with characters sometimes drops to a low level.
16	Composite level adjustment	Input of composite image 10STEP signal to TP MONVBS (1.0 Vpp ± 1%)	DAC jig output	Register setting of SA13h D5-0	<p>Amplitude between the 9th and 0 tones shall be 1.77 V ± 0.03 V.</p> 	<p>[Symptoms of poor adjustment]</p> <ul style="list-style-type: none"> <li>• White screen on the TV/video source</li> <li>• Dark screen on the TV/video source</li> </ul>
17	YS operation check	Signal input to TP YS 0-3.3 V			Check that YS operates.	
18	YS_OFFSET Setting verification	Not defined	—	Register setting of SA2Fh D3-0	[YS DELAY] shall be 7 in EEPROM test mode.	Check the EEPROM set value after writing.
19	Image verification	Input of composite image lamp signal (monochrome) to TP MONVBS	Screen	—	Check that the tones change smoothly, and that there are no colored section on the whole screen.	Perform verification in order to check whether the digital output of P in P IC is bridged or open.

"SA \*\*H" in the table denotes the sub-address of TC90A96BFG.

Backlight Inverter Adjustment

No	Adjustment Item	Input Signal	Measurement Point	Adjustment Point	Description of Adjustment	Remarks
20	Adjustment of standard driving frequency	14.4 ± 0.2 V to TP PWRFL1. Ground TP DIMMER. Ground TP FLGND. Ground TP INVPUL. Ground TP INVBST.	TP FL1 TP FL2	VR5201	48.0 ± 0.1 kHz	Connect 100 kΩ between TP FL1 and FL2. Measure by means of the wave pattern after voltage division, or at TP FL2. Do not measure TP FL1 directly. (Due to high voltage, it may result in damage of the measuring instrument.) [Symptoms of poor adjustment] • Backlight does not light up.
21	Frequency change check 1	Input the following wave pattern of 98.0 ± 1 kHz to INVPUL. 	TP FL1 TP FL2		49.0 ± 0.5 kHz	Check that the frequency of the wave pattern recorded in No.20 is 49 kHz.
22	Frequency change check 2	Input the following wave pattern of 104.0 ± 1 kHz to INVPUL. 	TP FL1 TP FL2		52.0 ± 0.5 kHz	Check that the frequency of the wave pattern recorded in No.20 is 52 kHz.

In case of a check of the product

No	Procedure	Measurement Point	Adjustment Point	Description of operation	Remarks
1	Aging	—	—	Keep the unit in the operation mode for 30 minutes or longer. Enter the "Service Adjustment Mode"	
2	"Service Adjustment Mode"	—	—	Background screen : Insert the "GGV1310" (Test Disc) and select "1. Horizontal Stripe 1" from the "20. Picture Check Menu" Character display : SERVICE MODE COM DC ** [FACTORY **]	Pattern for flicker adjustment... Picture consisting of White 50% and Black displayed alternately in each horizontal scanning line. The value of "4**" differs depending on the product status.
3	Screen display verification	Screen	—		
4	Flicker adjustment	Screen	COM DC	Change the value using the left/right buttons to select a value to minimize the flickering on the screen.	Operable with the buttons on the main unit. [Symptoms of poor adjustment] • The screen flickers

\*) Since this product dose not have OSD IC, OSD for adjustment is displayed by using GGF1416 at the time of monitor adjustment.

## A ● EEPROM Setting Mode

[Operation Specification]

- When you reset the microprocessor for the monitor while the [EPRTST] port is set at “Low”, the system goes to [Flicker Adjustment Mode]
  - Use remote controller (CXC6317 SW1 : AVH, SW2 : AVH) MENU key on the remote controller to switch between the setting modes:  
→[Flicker Adjustment Mode]→[Line Adjustment 1 Mode]→[Line Adjustment 2 Mode]→[Line Adjustment 3 Mode]  
→[Line Adjustment 4 Mode]→[Line Adjustment 5 Mode]→[Line Adjustment 6Mode]→[Line Adjustment 7 Mode]  
→[Line Adjustment 8 Mode]→[Line Adjustment 9 Mode]→[Line Adjustment 10 Mode]→[Dimmer Parameter Setting mode]→
  - Use ↓ and ↑ keys to select the item to adjust.
  - Use ← and → keys to adjust the selected item.
- (Pressing of the monitor key in this adjustment mode does not affect the operation of the main unit.)

B

\* In AVIC-N4/XU/UC and AVIC-X3/XU/EW5, key operation on the main unit is invalid.

\* The setting values are written in the EEPROM and then read-out to display the read out data.  
WRITE and READ operations are processed by the block data of 16 bits. The total bits for the settings depend on adjusting items

\* For CS (Check Sum) operation items, when the settings are changed, the CS value is written in 8 bits by applying the exclusive logic sum (XOR). The CS value here is also first written in the EEPROM and then read out to display the read out data. If the written data is different from the read-out data, the letter color for the read-out data is changed.

C

D

E

F

## EEPROM Memory Allocation (BR93L56FJ-W)

Dimmer  
Calibration  
VCOM  
PIP  
Dot Adjust

	Address	BIT15	BIT14	BIT13	BIT12	BIT11	BIT10	BIT9	BIT8	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0	Initial value (HEX)			
Bank 1	00h	Don't Care (Secured as data storage area for intelligent dimmer)									Don't Care (Secured as data storage area for intelligent dimmer)								BA60		
	01h	Don't Care (Secured as data storage area for intelligent dimmer)									Don't Care (Secured as data storage area for intelligent dimmer)								C459		
	02h	Touch Panel X Coordinate 1									Touch Panel Y Coordinate 1								0000		
	03h	Touch Panel X Coordinate 2									Touch Panel Y Coordinate 2								0000		
	04h	Touch Panel X Coordinate 3									Touch Panel Y Coordinate 3								0000		
	05h	Touch Panel X Coordinate 4									Touch Panel Y Coordinate 4								0000		
	06h	Touch Panel X Coordinate 5									Touch Panel Y Coordinate 5								0000		
	07h	Touch Panel X Coordinate 6									Touch Panel Y Coordinate 6								0000		
	08h	Touch Panel X Coordinate 7									Touch Panel Y Coordinate 7								0000		
	09h	Touch Panel X Coordinate 8									Touch Panel Y Coordinate 8								0000		
	0Ah	Touch Panel X Coordinate 9									Touch Panel Y Coordinate 9								0000		
	0Bh	Touch Panel X Coordinate 10									Touch Panel Y Coordinate 10								0000		
	0Ch	Touch Panel X Coordinate 11									Touch Panel Y Coordinate 11								0000		
	0Dh	Touch Panel X Coordinate 12									Touch Panel Y Coordinate 12								0000		
	0Eh	Touch Panel X Coordinate 13									Touch Panel Y Coordinate 13								0000		
	0Fh	Touch Panel X Coordinate 14									Touch Panel Y Coordinate 14								0000		
	10h	Touch Panel X Coordinate 15									Touch Panel Y Coordinate 15								0000		
	11h	Touch Panel X Coordinate 16									Touch Panel Y Coordinate 16								0000		
	12h	Outermost periphery X min									Outermost periphery Y min								282D		
	13h	Outermost periphery X max									Outermost periphery Y max								F3EC		
	14h	Touch Panel Calibration Adjustment Result									Touch Panel Outermost Periphery Adjustment Result								0000		
	15h	Common Reverse Output DC Center Value									Common Reverse Output Amplitude Adjusting Value								5C96		
	16h	Don't care		Brightness R							Don't care								5000	SA0Ch	
	17h	Bit Processing	Don't care		Brightness G							Don't care								9000	SA0Dh
	18h	Don't care		Brightness B							Don't care								1000	SA0Eh	
	19h	Don't care									Don't care		Main Y Contrast							3C22	SA0Fh
	1Ah	Don't care		Main Horizontal Enhancer						Main Vertical Enhancer						Don't care		0000	SA10h		
	1Bh	Don't care									Sub Y Contrast								3E1A	SA13h	
1Ch	Don't care		Sub Horizontal Enhancer						Sub Vertical Enhancer						Don't care		1598	SA14h			
1Dh	Don't care	RGB Simul. $\gamma$ Gradient B				R Output DC Offset				Don't care		RGB Simul. $\gamma$ 1 Inflection Point						C800	SA1Ah		

Dimmer  
Calibration  
VCOM  
PIP  
Dot Adjust

A

B

C

D

E

F

		Address	BIT15	BIT14	BIT13	BIT12	BIT11	BIT10	BIT9	BIT8	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0	Initial value (HEX)				
Bank 1	1Eh	RGB Simu. $\gamma$ Gradient B		RGB Simu. $\gamma$ 2 Inflection Point						RGB Simu. $\gamma$ Gradient B		RGB Simu. $\gamma$ 3 Inflection Point						2421	SA1Bh				
	1Fh	Don't care			G Output DC Offset				Don't care										C800	SA1Ch			
	20h	Don't care			B Output DC Offset				Don't care										4800	SA1Eh			
	21h	RGB & YS Horizontal Alignment										Don't care								3F11	SA2Bh		
	22h	YS Sampling Phase				Bch Sampling Phase				Gch Sampling Phase				Rch Sampling Phase				8777	SA2Dh				
	23h	Don't care														YS Inside-delay Adjusting Value				0007	SA2Fh		
	24h	Dot Search Thresh Value										YS Search Thresh Value										7003	
	25h	Phase Search Thresh Value										Xdisp (RGB Display Allowable Difference Level)										7020	
	26h	Don't care										YSdisp (Display Allowable Difference Level)										0002	
	27h	SA24h UPPER										SA24h LOWER										9E0D	SA24h
	28h	SA25h UPPER										SA25h LOWER										CC04	SA25h
	29h	SA26h UPPER TV										SA26h LOWER TV										8C88	for TV Source: SA26h
	2Ah	SA26h UPPER										SA26h LOWER										8C8D	for other sources: SA26h
	2Bh	SA27h UPPER TV										SA27h LOWER TV										6444	for TV Source: SA27h
	2Ch	SA27h UPPER										SA27h LOWER										9889	for other sources: SA27h
	2Dh	SA46h UPPER										SA46h LOWER										0200	SA46h
	2Eh	SA47h UPPER										SA47h LOWER										0300	SA47h
	2Fh	SA48h UPPER										SA48h LOWER										0000	SA48h
	30h	SA49h UPPER										SA49h LOWER										0000	SA49h
	31h	SA4Ah UPPER										SA4Ah LOWER										0000	SA4Ah
	32h	SA4Bh UPPER										SA4Bh LOWER										0000	SA4Bh
	33h	SA4Ch UPPER										SA4Ch LOWER										0000	SA4Ch
	34H	SA4Dh UPPER										SA4Dh LOWER										0000	SA4Dh
	35H	SA4Eh UPPER										SA4Eh LOWER										0000	SA4Eh
	36H	SA4Fh UPPER										SA4Fh LOWER										0000	SA4Fh
	37H	Coordinate Value for Xmin Correction										Coordinate Calue for Ymin Correction										0101	
	38H	Coordinate Value for Xmax Correction																		01E0			
	39H	Coordinate Value for Ymax Correction																		00EA			
	3Ah	Touch AD Correction Value X Coordinate										Touch AD Correction Value Y Coordinate										0000	
	3Bh	Checksum																		4565			



Dimmer  
Calibration  
VCOM  
PIP  
Dot Adjust

	Address	BIT15	BIT14	BIT13	BIT12	BIT11	BIT10	BIT9	BIT8	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0	Initial value (HEX)	
Bank 1	3Ch	Don't care							With/without flicker adjustment	Flicker Adjust.	Common Reverse Output DC Center Reference Value								005C
	3Dh	RGB & YS Horizontal Alignment Reference Value									Don't care								3F11
	3Eh	YS Sampling Phase Ref. Value				Bch Sampling Phase Ref. Value				Gch Sampling Phase Ref. Value				Rch Sampling Phase Ref. Value				8777	
	3FH	Don't care												YS Inside-delay Adjust. Value Ref. Value				0007	
Bank 2	40H	Don't Care (Secured as data storage area for intelligent dimmer)									Don't Care (Secured as data storage area for intelligent dimmer)								BBC4
	41H	Don't Care (Secured as data storage area for intelligent dimmer)									Don't Care (Secured as data storage area for intelligent dimmer)								BAC4
	42H	Don't Care (Secured as data storage area for intelligent dimmer)									Don't Care (Secured as data storage area for intelligent dimmer)								6059
	43H	[User] Touch Panel X Coordinate 1									[User] Touch Panel Y Coordinate 1								0000
	44H	[User] Touch Panel X Coordinate 2									[User] Touch Panel Y Coordinate 2								0000
	45H	[User] Touch Panel X Coordinate 3									[User] Touch Panel Y Coordinate 3								0000
	46H	[User] Touch Panel X Coordinate 4									[User] Touch Panel Y Coordinate 4								0000
	47H	[User] Touch Panel X Coordinate 5									[User] Touch Panel Y Coordinate 5								0000
	48H	[User] Touch Panel X Coordinate 6									[User] Touch Panel Y Coordinate 6								0000
	49H	[User] Touch Panel X Coordinate 7									[User] Touch Panel Y Coordinate 7								0000
	4AH	[User] Touch Panel X Coordinate 8									[User] Touch Panel Y Coordinate 8								0000
	4BH	[User] Touch Panel X Coordinate 9									[User] Touch Panel Y Coordinate 9								0000
	4CH	[User] Touch Panel X Coordinate 10									[User] Touch Panel Y Coordinate 10								0000
	4DH	[User] Touch Panel X Coordinate 11									[User] Touch Panel Y Coordinate 11								0000
	4EH	[User] Touch Panel X Coordinate 12									[User] Touch Panel Y Coordinate 12								0000
	4FH	[User] Touch Panel X Coordinate 13									[User] Touch Panel Y Coordinate 13								0000
	50H	[User] Touch Panel X Coordinate 14									[User] Touch Panel Y Coordinate 14								0000
	51H	[User] Touch Panel X Coordinate 15									[User] Touch Panel Y Coordinate 15								0000
	52H	[User] Touch Panel X Coordinate 16									[User] Touch Panel Y Coordinate 16								0000
	53H	[User] Outermost Periphery Xmin									[User] Outermost Periphery Ymin								282D
	54H	[User] Outermost Periphery Xmax									[User] Outermost Periphery Ymax								F3EC
	55H	[User] Touch Panel Calibration Adjustment Result									[User] Touch Panel Outermost Periphery Adjustment Result								0000
	56H	(USER) Touch AD Correction Value X Coordinate									(USER) Touch AD Correction Value Y Coordinate								0000
	~	Don't care																	
	~	Don't care																	
	7FH	Don't care																	
Add AVIC-N4/XU/UC, AVIC-X3/XU/EW5																			

[Display in each mode]

The part within the bold frame is an example of an actual OSD display.  
Blue values are subject to change due to adjustment on each screen.  
Red items are for design study and line adjustment.

#### ■ Flicker Adjustment Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
Common reverse output center value	[0-255]	COM DC *	92		

Notes:

1) [COM DC] data are reflected also on the common reverse output center reference value

(The common reverse output center reference value is treated as an initial value set at the line)

2) “\*” mark is displayed whenever the value is adjusted, no matter how small the adjustment is.

#### ■ Line Adjustment 1 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
Brightness	[0-255]	BRIGHT	150	NOT	LINE1 EEPROM
RGB simultaneous contrast (SA0C[D7-0])	[0-255]	CONTRAST	168	NOT	EEPROM
Common reverse output amplitude adjusting value	[0-255]	COM AMP AJ	150		
R-output DC offset (SA1A[D11-8])	[0-15]	ROUT BIAS	8		
G-output DC offset (SA1C[D11-8])	[0-15]	GOUT BIAS	8		
B-output DC offset (SA1E[D11-8])	[0-15]	BOUT BIAS	8		
Main Y Contrast (SA0F[D5-0])	[0-63]	RGB CNTRST	34		
Sub Y Contrast (SA13[D5-0])	[0-63]	CMP CNTRST	26		
DRT Bit Processing ON/OFF (SA0Ch[D15])	[OFF-ON]	DTR	ON	CS	FFFF

Notes:

**[BRIGHT]** and **[CONTRAST]** data are reference values for adjustment of other items, and are not memorized in the EEPROM.

#### ■ Line Adjustment 2 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
RGB&YS Horizontal Alignment (SA2B[D15-8])	[0-255]	DOT H POSIT	63		LINE2
YS Sampling Phase 1 (SA2D[D15-12])	[0-15]	YS SAMPL	8		
AD Sampling Phase B (SA2D[D11-8])	[0-15]	B SAMPL	8		
AD Sampling PhaseG (SA2D[D7-4])	[0-15]	G SAMPL	8		
AD Sampling PhaseR (SA2D[D3-0])	[0-15]	R SAMPL	8		
YS Inside-delay Adjustment (SA2F[D3-0])	[0-15]	YS DELAY	8		
				CS	FFFF

#### ■ Line Adjustment 3 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
Dot search thresh	[0-255]	TH DOT	112		LINE3
YS search thresh	[0-4]	TH YS	3		
Phase search thresh	[0-255]	TH PHASE	112		
Xdisp	[0-63]	X DISP	32		
YSdisp	[0-4]	YS DISP	2		
				CS	FFFF

#### ■ Line Adjustment 4 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
Main horizontal enhancer Gain (SA10[D13-12])	[0-3]	M H GAIN	0		LINE4
Main horizontal enhancer Limiter (SA10[D11-10])	[0-3]	M H LIMIT	0		
Main horizontal enhancer f0 (SA10[D8])	[0-1]	M H F0	0		
Main vertical enhancer Gain (SA10[D7-6])	[0-3]	M V GAIN	0		
Main vertical enhancer Loopback (SA10[D5-4])	[0-3]	M V ORI	0		
Main vertical enhancer Core Ring (SA10[D3-2])	[0-3]	M V CORE	0		
				CS	FFFF

### Line Adjustment 5 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
Sub horizontal enhancer Gain (SA14[D13-12])	[0-3]	S H GAIN	1		LINE5
Sub horizontal enhancer Limiter (SA14[D11-10])	[0-3]	S H LIMIT	1		
Sub horizontal enhancer f0 (SA14[D8])	[0-1]	S H F0	1		
Sub vertical enhancer Gain (SA14[D7-6])	[0-3]	S V GAIN	2		
Sub vertical enhancer Loopback (SA14[D5-4])	[0-3]	S V ORI	1		
Sub vertical enhancer Core Ring (SA14[D3-2])	[0-3]	S V CORE	2		
				CS	FFFF

### Line Adjustment 6 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
Brightness R (SA0C[D13-8])	[0-63]	BRIGHT R	16		LINE6
Brightness G (SA0D[D13-8])	[0-63]	BRIGHT G	16		
Brightness B (SA0E[D13-8])	[0-63]	BRIGHT B	16		
γ Correction ON/OFF (SA1A[D15])		GAMMA	OFF		
RGB Simultaneous γ 1 inflection point (SA1A[D5-D0])	[0-63]	GAMMA 1	0		
RGB Simultaneous γ 2 inflection point (SA1B[D12-8])	[0-31]	GAMMA 2	4		
RGB Simultaneous γ 3 inflection point (SA1B[D4-D0])	[0-31]	GAMMA 3	1		
RGB Simultaneous γ Gradient A (SA1A[D14-12])	[0-7]	GAMMASLP A	4		
RGB Simultaneous γ Gradient B (SA1B[D15-13])	[0-7]	GAMMASLP B	1		
RGB Simultaneous γ Gradient C (SA1B[D7-5])	[0-7]	GAMMASLP C	1	CS	FFFF

### Line Adjustment 7 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
					LINE7
Main PLL0 (SA24[D15-D8])	[0-255]	MAIN PLL0	158		
Main PLL1 (SA24[D7-D0])	[0-255]	MAIN PLL1	13		
Main PLL2 (SA25[D15-D8])	[0-255]	MAIN PLL2	204		
Main PLL3 (SA25[D7-D0])	[0-255]	MAIN PLL3	4		
				CS	FFFF

### Line Adjustment 8 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
					LINE8
Sub PLL0 for TV (SA26[D15-D8])	[0-255]	SUB PLL0 TV	140		
Sub PLL1 for TV (SA26[D7-D0])	[0-255]	SUB PLL1 TV	136		
Other Sub PLL0 (SA27[D15-D8])	[0-255]	SUB PLL0	140		
Other Sub PLL1 (SA27[D7-D0])	[0-255]	SUB PLL1	141		
Sub PLL2 for TV (SA28[D15-D8])	[0-255]	SUB PLL2 TV	100		
Sub PLL3 for TV (SA28[D7-D0])	[0-255]	SUB PLL3 TV	68		
Other Sub PLL2 (SA29[D15-D8])	[0-255]	SUB PLL2	152		
Other Sub PLL3 (SA29[D7-D0])	[0-255]	SUB PLL3	135		
				CS	FFFF

### Line Adjustment 9 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
					LINE9
SA46[D15-D8]	[0-255]	SA46H UPPER	0		
SA46[D7-D0]	[0-255]	SA46H LOWER	0		
SA47[D15-D8]	[0-255]	SA47H UPPER	0		
SA47[D7-D0]	[0-255]	SA47H LOWER	0		
SA48[D15-D8]	[0-255]	SA48H UPPER	0		
SA48[D7-D0]	[0-255]	SA48H LOWER	0		
SA49[D15-D8]	[0-255]	SA49H UPPER	0		
SA49[D7-D0]	[0-255]	SA49H LOWER	0		
SA4A[D15-D8]	[0-255]	SA4AH UPPER	0		
SA4A[D7-D0]	[0-255]	SA4AH LOWER	0		
				CS	FFFF

### Line Adjustment 10 Mode

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
					LINE10
SA4B[D15-D8]	[0-255]	SA4BH UPPER	0		
SA4B[D7-D0]	[0-255]	SA4BH LOWER	0		
SA4C[D15-D8]	[0-255]	SA4CH UPPER	0		
SA4C[D7-D0]	[0-255]	SA4CH LOWER	0		
SA4D[D15-D8]	[0-255]	SA4DH UPPER	0		
SA4D[D7-D0]	[0-255]	SA4DH LOWER	0		
SA4E[D15-D8]	[0-255]	SA4EH UPPER	0		
SA4E[D7-D0]	[0-255]	SA4EH LOWER	0		
SA4F[D15-D8]	[0-255]	SA4FH UPPER	0		
SA4F[D7-D0]	[0-255]	SA4FH LOWER	0		
				CS	FFFF

## ■ Dimmer Parameter Setting Mode

A

Description of adjustment	Adjustment range	Display of the item	Adjusted value/ Written value (HEX)		
Backlight MAX Output	[0-255]	BL MAX	C4		DIMMER
Backlight MIN Output	[0-255]	BL MIN	59		
Dimmer Threshold (high)	[0-255]	REF H	C0		
Dimmer Threshold (low)	[0-255]	REF L	60		
External light point (high)	[0-255]	LUM H	E2		
External light point (middle)	[0-255]	LUM M	87		
External light point (low)	[0-255]	LUM L	52		
Backlight point (high)	[0-255]	BL H	C4		
Backlight point (middle)	[0-255]	BL M	C4		
Backlight point (low)	[0-255]	BL L	68	CS	FFFF

B

\* Though data of dimmer points (coordinates) are memorized in EEPROM, they are not treated as a CS item, because they are adjustable by the user.

\* Since AVIC-N4/XU/UC and AVIC-X3/XU/EW5 do not support intelligent dimmer, adjustment result in this mode is not reflected on these products.

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## 8.5 TOUCH PANEL TEST MODE

### ● MAIN MENU

Screen configuration

Select each item of the touch panel test mode.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1						*	*																									
2					*																											
3																																
4																																
5																																
6																																
7																																
8																																
9																																

- Conditions for the adjusted mark (※) to light on.

#### 1. TP EFFECTIVE RANGE

→When the outermost circumference adjustment has been completed correctly.

#### 2. CALIBRATION

→When the calibration has been completed correctly.

→When the line touch panel test has been completed correctly.

\*) If one of the above conditions is met, the light will turn on.

#### 4. LINE TOUCH TEST

→When the line touch panel test has been completed correctly.

- Conditions for the adjusted mark (※) to go out.

#### 1. TP EFFECTIVE RANGE

→If the outermost circumference adjustment has never been made.

→When the EEPROM initialization is made.

→When the outermost circumference adjustment value initialization is made in the initialization menu.

→When the outermost circumference adjustment has failed.

#### 2. CALIBRATION

→If the calibration adjustment has never been conducted.

→When the EEPROM initialization is made.

→When the calibration adjustment value initialization is made in the initialization menu.

→When the calibration adjustment has failed.

→When the line touch panel verification has failed.

#### 4. LINE TOUCH TEST

→If the line touch panel verification has never been conducted.

→When the EEPROM initialization is made.

→When the calibration adjustment value initialization is made in the initialization menu.

→When the line touch panel verification has failed.

## ● TP EFFECTIVE RANGE

### Screen configuration

- A Trace the white line displayed on the each four corner of touch panel with a soft stick(ex. wooden toothpick), and the setting values are saved in the EEPROM.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1									T	P																						
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																

### Operational specifications

Touch on the touch panel, and check the outermost circumference.

OK (NG) is displayed in the screen center by the MENU key, and 2 seconds later, the screen will return to the top MENU.

### Details of the process

After pressing the MENU key, the setting values are judged.

If the value is within the allowable range, the upper limit and the lower limit of the setting value and the normal ending information are saved in the EEPROM and OK is displayed. After 2 seconds, the screen will return to the top MENU.

If the setting value is outside of the range, the upper limit and the lower limit values are not saved in the EEPROM, NG ending information is saved and NG is displayed. After 2 seconds, the screen will return to the top MENU.

The initial values and the setting value allowable range are as shown below.

[The list of AFTER initial value]

Coordinate	Minimum value	Maximum value
X	129	157
Y	132	153

[The list of initial setting value at the time of EEPROM reset]

Coordinate	Minimum value	Maximum value
X	40	247
Y	45	240

[The list of AFTER setting allowable range]

Coordinate	Minimum value	Maximum value
X	0 to 128	158 to 255
Y	0 to 131	154 to 255



## ● CALIBRATION

### Outline

Press “+” cursors on the screen one by one for calibration, and the setting values are saved in the EEPROM.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1																																
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																

\*) The numbers above indicate the order of the cursors being displayed.

### Operational specifications

Press the cursors displayed at 16 locations on the screen one by one for calibration, and the process will be completed by pressing the last cursor (total 17 locations).

After the 17th location has been displayed, “FINISHED” will be displayed in the center of the screen. After 2 seconds, the screen will return to the top MENU.

The cursor is displayed only one at a time, and the next cursor will be displayed when the previous one has been pressed correctly.

If the MENU key is pressed before pressing 17 locations, NG will be displayed, and after 2 seconds, the screen will return to the top MENU.

### Details of the process

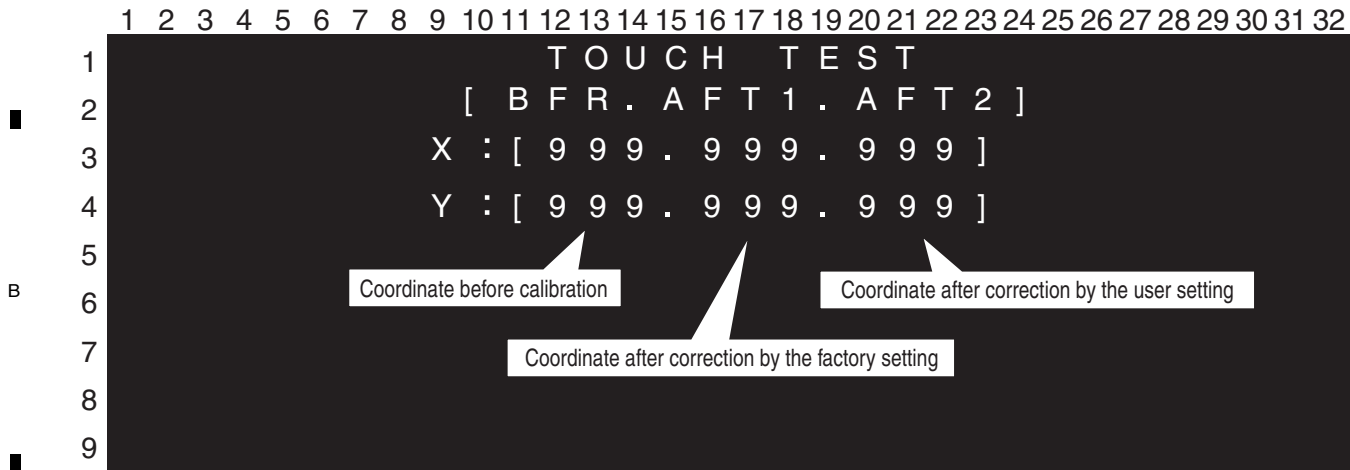
When the 17th location is pressed, the setting values and normal ending information are saved in the EEPROM, and “FINISHED” will be displayed.

If the MENU key is pressed during the process and the inspection is finished, the EEPROM will save the NG ending information, and “NG” is displayed.

## ● TOUCH TEST

### Screen configuration

A The coordinate before correction and after correction at the time of the touch panel pressing are displayed to verify the operation.



### Operational specifications

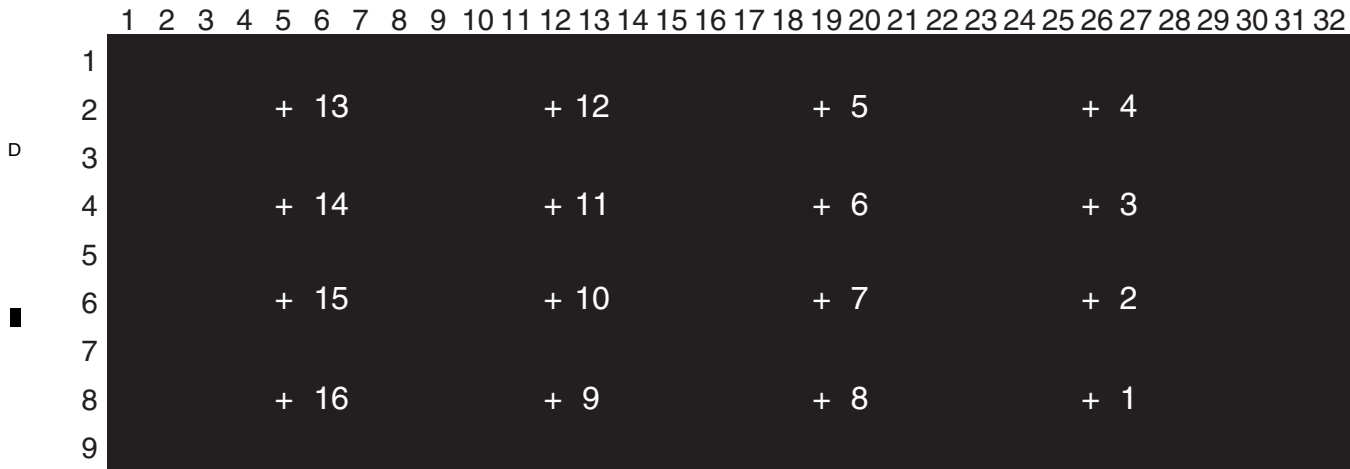
Touch the touch panel to display the coordinate. Verify the coordinate before correction and the coordinate after correction by the factory setting. Return to the top MENU by pressing the MENU key.

C

## ● LINE TOUCH TEST

### Outline

Press the “+” cursors on the screen one by one to judge OK/NG of the touch panel.



E \*) The above numbers indicate the order that the cursors are displayed.

### Operational specifications

Press the cursors displayed at 16 locations on the screen one by one for inspection.

After the 16th location has been displayed, “OK” will be displayed in the center of the screen. After 2 seconds, the screen will return to the top MENU.

The cursor is displayed only one at a time, and the next cursor will be displayed when the previous one has been pressed correctly.

If not pressed correctly (if not within the OK range), “OUTSIDE OF THE RANGE” will be displayed.

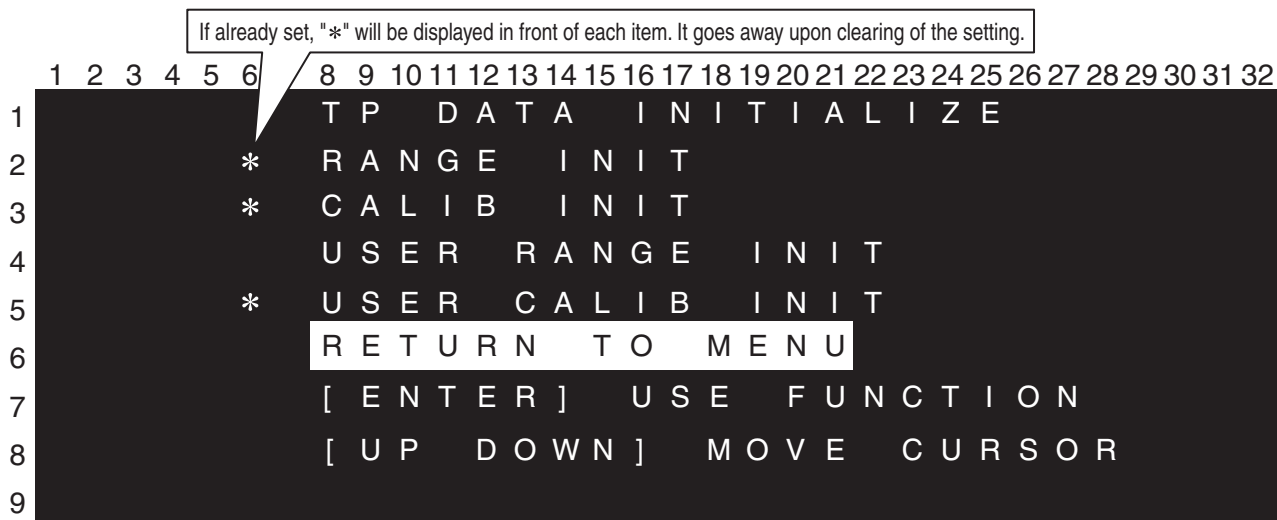
If the MENU key is pressed before pressing 16 locations, NG will be displayed, and after 2 seconds, the screen will return to the top MENU.

F

## ● TP DATA INITIALIZE

Screen configuration

Outermost circumference and 16 point calibration data are returned to the initial value.



The functions by the items selected are as follows.

RANGE INIT	The factory preset outermost circumference setting is initialized.
CALIB INIT	The factory preset calibration is initialized.
USER RANGE INIT	The user preset outermost circumference setting is initialized.
USER CALIB INIT	By this action, the factory preset outermost circumference setting is used.
	The user preset calibration setting is initialized.
	By this action, the factory preset outermost circumference setting is used.

- Conditions for the adjusted mark (✱) to light on.

RANGE INIT

→The same condition as the item for outermost circumference adjustment in the top MENU.

CALIB INIT

→The same condition as the item for line touch panel verification in the top MENU.

USER RANGE INIT

→In case the user outermost circumference adjustment made a normal ending.

USER CALIB INIT

→In case the user calibration made a normal ending.

- Conditions for the adjusted mark (✱) to go out.

RANGE INIT

→The same condition as the item for outermost circumference adjustment in the top MENU.

CALIB INIT

→The same condition as the item for line touch panel verification in the top MENU.

USER RANGE INIT

→In case the user outermost circumference adjustment has never been conducted.

→When the EEPROM initialization is made.

→In case the user outermost circumference adjustment value initialization was conducted in the initialization menu.

→In case the outermost circumference adjustment made a normal ending.

→In case the calibration adjustment made a normal ending.

USER CALIB INIT

→In case the user calibration adjustment has never been conducted.

→When the EEPROM initialization is made.

→In case the user calibration adjustment value initialization was conducted in the initialization menu.

→In case the outermost circumference adjustment made a normal ending.

→In case the calibration adjustment made a normal ending.

Operational specifications

Select each item by the MENU key and the MAP key.

The function of the item selected by the MENU key is executed.

When "RETURN TO MENU" is executed, the screen will return to the top MENU.

## 8.6 SERVICE ADJUSTMENT

- Used remote controller CXC6317(SW1: AVH, SW2: AVH)

### [Operation Specification]

- The operation method to shift to [Adjustment mode for service] is shown below.
  - Set TPTEST and SRVTEST to High and Low, respectively, and turn ON the ACC.
  - It is also available by pressing reset, however, the user data is deleted, so it is not recommended.
- The operation method to release [Adjustment mode for service] is shown below.
  - ACC OFF -> ON (BUP OFF -> ON is also available)
- The switching, selection and adjustment operations in this setting mode can be implemented from remote controller. (Even if the MONITOR key is pressed in this adjustment mode, it does not affect the operation of main unit.)
- Switch the page by MENU key.
- Select the item you want to adjust by DOWN and UP keys.
- As the screen is displayed in two pages, the pages are switched.
- Adjusted by LEFT and RIGHT keys.

### [Specification of display]

Within thick frame shows the example of actual OSD display.

The blue values show the parts that are changed at the adjustment. (In the display example, MAX value is displayed)

Red items are for design study and line adjustment.

The brown values show the default values for adjustment used for line. (Rewritable in EEPROM setting mode)

\* This default value is not the setting value for each product, however, it is the value that has no problem when it is set.

### Adjustment mode for service

Description of adjustment : 1st page	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
Common reverse output center value	[0-255]	COM DC	92		
Common reverse output center setting value (Factory value)	[0-255]	[FACTORY	92	]	
RGB&YS Horizontal Alignment	[0-255]	DOT H POSIT	69		
RGB & YS horizontal Alignment setting value (Factory value)	[0-255]	[FACTORY	69	]	
YS Sampling Phase 1	[0-15]	YS SAMPL	8		
YS Sampling Phase 1 setting value (Factory value)	[0-15]	[FACTORY	8	]	
AD Sampling Phase B	[0-15]	B SAMPL	8		
AD Sampling Phase B setting value (Factory value)	[0-15]	[FACTORY	8	]	

Description of adjustment : 2nd page	Adjustment range	Display of the item	Adjusted value/ Written value (DEC)		
AD Sampling Phase G	[0-15]	G SAMPL	8		
AD Sampling Phase G setting value (Factory value)	[0-15]	[FACTORY	8	]	
AD Sampling Phase R	[0-15]	R SAMPL	8		
AD Sampling Phase R setting value (Factory value)	[0-15]	[FACTORY	8	]	
YS inside-delay Adjustment	[0-15]	YS DELAY	8		
YS inside-delay Adjustment setting value (Factory value)	[0-15]	[FACTORY	8	]	

\* CS display is not implemented.

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AVIC-N4/XU/UC

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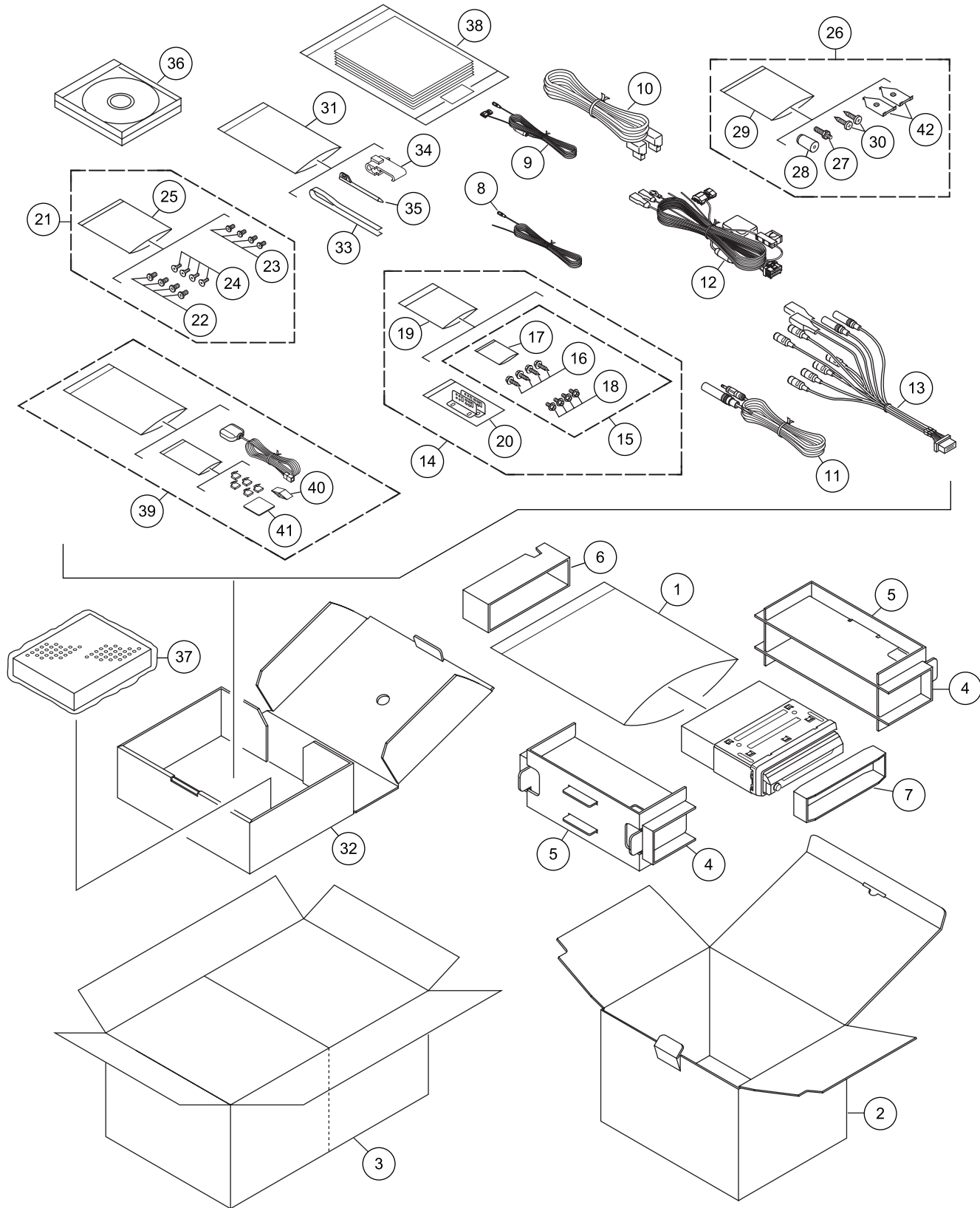
8

■

# 9. EXPLODED VIEWS AND PARTS LIST

NOTES : • Parts marked by " \* " are generally unavailable because they are not in our Master Spare Parts List.  
 • The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.  
 • Screw adjacent to ▽ mark on the product are used for disassembly.  
 • For the applying amount of lubricants or glue, follow the instructions in this manual.  
 (In the case of no amount instructions, apply as you think it appropriate.)

## 9.1 PACKING(UC)



## PACKING(UC) SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Polyethylene Bag	CEG1173	* 26	Accessory Assy	CEA7737
2	Unit Box	CHG6243	27	Screw	CBA1650
3	Contain Box	CHL6243	28	Bush	CNV3930
4	Protector	CHP2876	* 29	Polyethylene Bag	E36-615
5	Protector	CHP2877	30	Fixing Screw	JGZ20P070FTC
6	Protector	CHP2945	31	Cover	CEG1385
7	Protector	CHP3454	32	Sub Unit Box	CHG5440
8	Cord	CDE5044	33	Sheet	CNN1741
9	Cord	CDE6825	34	Connector	CKX1049
10	Cord Assy	CDE7398	35	Pen	CNV8969
11	Antenna Cable	CDH1325	36	DVD-ROM	CPJ1184
12	Cord Assy	CDP1058	37	Air Cushioned Bag	CEG1007
13	Cord Assy	CDP1059	38-1	Polyethylene Bag	CEG1116
14	Accessory Assy	CEA3996	38-2	Owner's Manual	CRB2449
15	Screw Assy	CEA4396	38-3	Owner's Manual/POC/FRE	CRB2450
16	Screw(M6 x 16)	CBA1795	38-4	Owner's Manual	CRB2451
* 17	Polyethylene Sheet	CNM4338	38-5	Owner's Manual/POC/FRE	CRB2452
18	Screw	HMF40P080FTC	38-6	Installation Manual	CRD4241
* 19	Polyethylene Bag	CEG1163	38-7	Caution Card	CRP1310
20	Angle Assy	CXC1079	* 38-8	Warranty Card	CRY1246
21	Screw Assy	CEA5144	* 38-9	Registration Card	CRY1263
22	Screw	BMZ50P060FTC	39	GPS Antenna Assy	CXC4864
23	Screw(M4 x 3)	CBA1870	40	Packing	CZN5442
24	Screw	CMZ50P060FTC	41	Grand Sheet	CZN7008
* 25	Polyethylene Sheet	CNM4338	42	Bracket	CND4079

### Owner's Manual,Installation Manual

<b>Part No.</b>	<b>Language</b>
CRB2449	English
CRB2450	French
CRB2451	English
CRB2452	French
CRD4241	English, French

1 2 3 4

# 9.2 PACKING(EW5)

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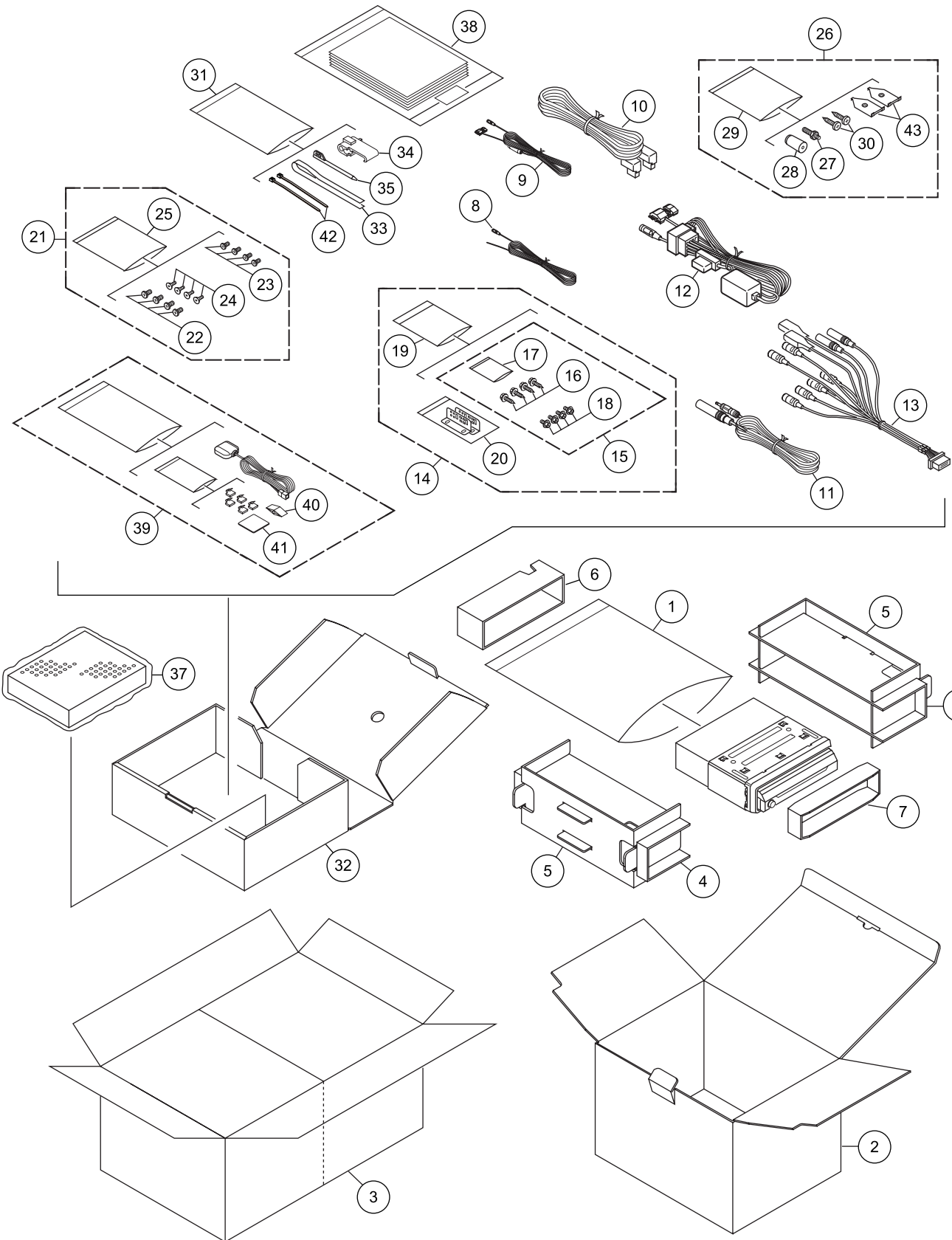
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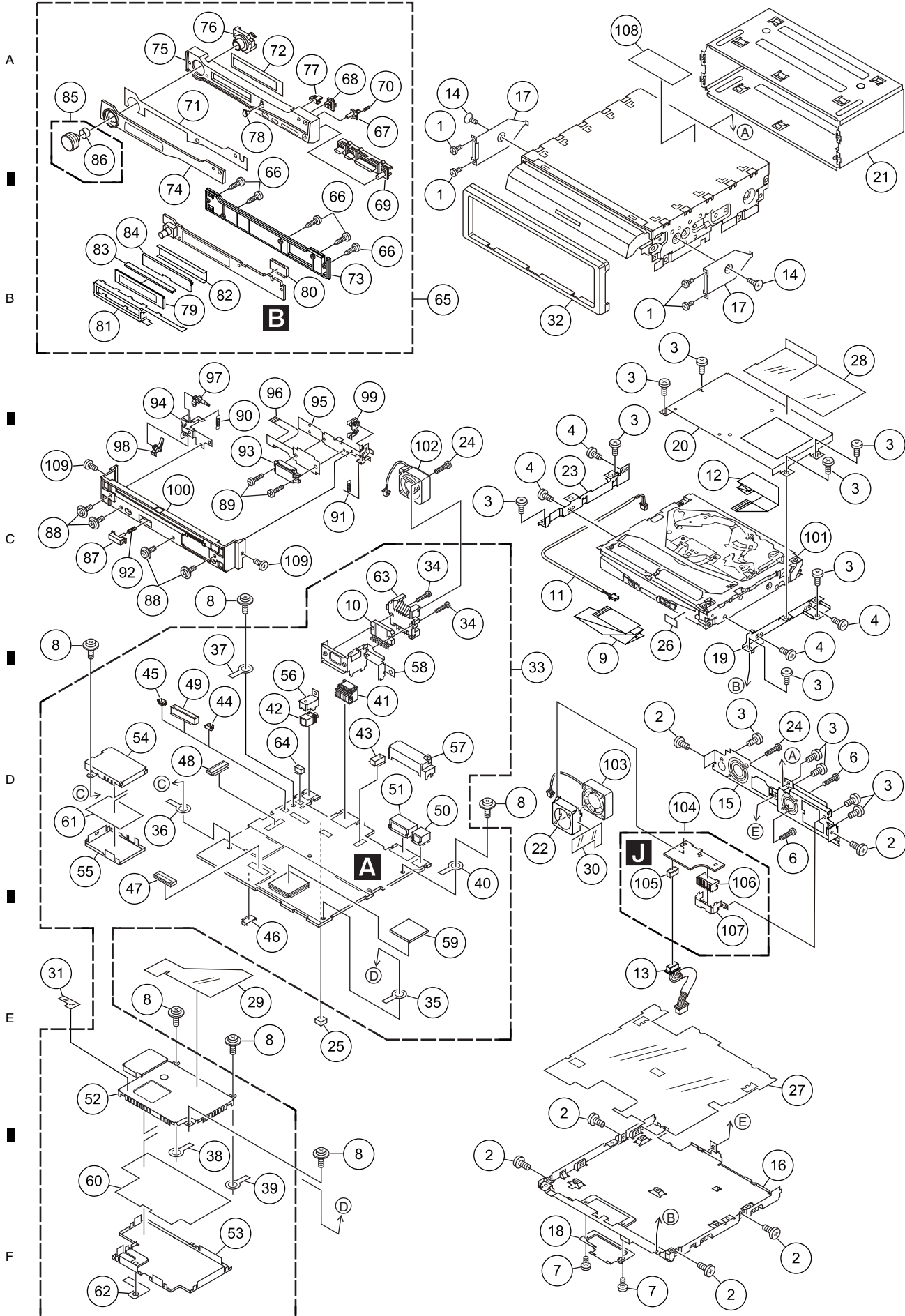
## PACKING(EW5) SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Polyethylene Bag	CEG-162	31	Cover	CEG1385
2	Unit Box	CHG6242	32	Sub Unit Box	CHG5440
3	Contain Box	CHL6242	33	Sheet	CNN1741
4	Protector	CHP2876	34	Connector	CKX1049
5	Protector	CHP2877	35	Pen	CNV8969
6	Protector	CHP2945	36	.....	
7	Protector	CHP3454	37	Air Cushioned Bag	CEG1007
8	Cord	CDE5044	38-1	Polyethylene Bag	CEG1116
9	Cord	CDE6825	38-2	Owner's Manual/PEE/ENG	CRB2453
10	Cord Assy	CDE7398	38-3	Owner's Manual/PEE/SPE	CRB2454
11	Antenna Cable	CDH1325	38-4	Owner's Manual/PEE/GER	CRB2455
12	Cord Assy	CDP1057	38-5	Owner's Manual/PEE/FRE	CRB2456
13	Cord Assy	CDP1059	38-6	Owner's Manual/PEE/ITA	CRB2457
14	Accessory Assy	CEA3996	38-7	Owner's Manual/PEE/DUT	CRB2458
15	Screw Assy	CEA4396	38-8	Owner's Manual/PEE/ENG	CRB2459
16	Screw(M6 x 16)	CBA1795	38-9	Owner's Manual/PEE/SPE	CRB2460
* 17	Polyethylene Sheet	CNM4338	38-10	Owner's Manual/PEE/GER	CRB2461
18	Screw	HMF40P080FTC	38-11	Owner's Manual/PEE/FRE	CRB2462
* 19	Polyethylene Bag	CEG1163	38-12	Owner's Manual/PEE/ITA	CRB2463
20	Angle Assy	CXC1079	38-13	Owner's Manual/PEE/DUT	CRB2464
21	Screw Assy	CEA5144	38-14	Installation Manual	CRD4242
22	Screw	BMZ50P060FTC	* 38-15	Warranty Card	CRY1265
23	Screw(M4 x 3)	CBA1870	* 38-16	Caution Card	CRP1362
24	Screw	CMZ50P060FTC	39	GPS Antenna Assy	CXC4864
* 25	Polyethylene Sheet	CNM4338	40	Packing	CZN5442
* 26	Accessory Assy	CEA7737	41	Grand Sheet	CZN7008
27	Screw	CBA1650	* 42	Lock Tie	CNV-754
28	Bush	CNV3930	43	Bracket	CND4079
* 29	Polyethylene Bag	E36-615			
30	Fixing Screw	JGZ20P070FTC			

### Owner's Manual,Installation Manual

<b>Part No.</b>	<b>Language</b>
CRB2453	English
CRB2454	Spanish
CRB2455	German
CRB2456	French
CRB2457	Italian
CRB2458	Dutch
CRB2459	English
CRB2460	Spanish
CRB2461	German
CRB2462	French
CRB2463	Italian
CRB2464	Dutch
CRD4242	English, Spanish, German, French, Italian, Dutch

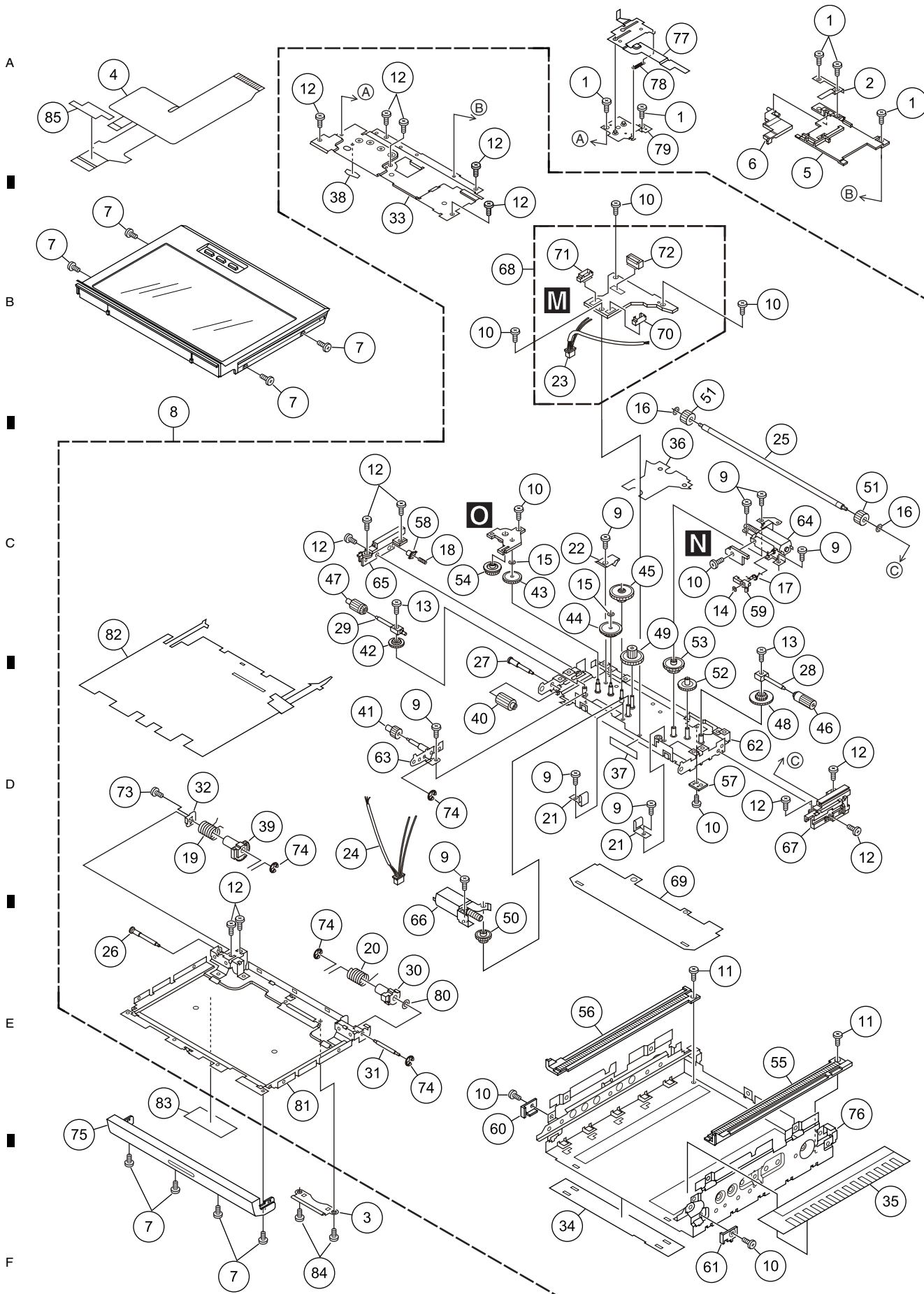
## 9.3 EXTERIOR(1)



# EXTERIOR(1) SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
1	Screw	BMZ20P030FTB	59	Sheet	CNM7902	
2	Screw	BMZ26P030FTB	60	Insulator	CNM8572	A
3	Screw	BMZ26P040FTC	61	Insulator	CNM8573	
4	Screw(M2 x 3)	CBA2096	62	Insulator	CNM8856	
5	*****		63	Heat Sink	CNR1739	
6	Screw(M2.6 x 14)	CBA2103	64	Connector(CN2551)	VKN1928	
7	Screw(M2 x 1.4)	CBA2106	65	Grille Assy(UC model)	CXC7367	
8	Screw	ISS26P050FTC		Grille Assy(EW5 model)	CXC7368	
9	FFC	CDE7740	66	Screw	BPZ20P080FTB	
10	IC(IC2405)	PAL007C	67	Button(DETACH)	CAI1176	
11	Cord Assy	CDE8461	68	Button(RESET)	CAI1177	
12	FFC	CDE8462	69	Button(TEL, EJECT, <, >, OPEN/TILT)	CAI1245	
13	Cord Assy	CDE8463	70	Spring	CBH2680	B
14	Screw	CMZ50P060FTC	71	Double Side Tape	CNN1579	
15	Panel	CNB3411	72	Sheet	CNN1991	
16	Case	CNB3412	73	Cover	CNS8964	
17	Bracket	CND1482	74	Plate(UC model)	CNS9023	
18	Holder	CND1948		Plate(EW5 model)	CNS9024	
19	Bracket	CND3842	75	Grille	CNS9028	
20	Bracket	CND3845	76	Lighting Conductor	CNV9504	
21	Holder	CND3854	77	Lighting Conductor	CNV9506	
22	Holder	CND4033	78	Lighting Conductor	CNV9507	
23	Bracket	CND4034	79	LCD(LCD4001)	CAW1950	
24	Screw	PMZ20P160FTC	80	Connector(CN4001)	CKS4657	C
25	Spacer	CNM9200	81	Holder	CND3851	
26	Spacer	CNN1582	82	Sheet	CNN1580	
27	Insulator	CNN1671	83	Connector	CNV9502	
28	Insulator	CNN1672	84	Lighting Conductor	CNV9503	
29	Insulator	CNN1673	85	Knob Unit(VOL/MUTE)	CXC7631	
30	Insulator	CNN1674	86	Spring	CBL1761	
31	Insulator	CNN1782	87	Button(DETACH)	CAI1460	
32	Panel	CNS8978	88	Screw(M2 x 3)	CBA2104	
33	CC Unit(UC model)	CWN2308	89	Screw(M2 x 3)	CBA2105	
	CC Unit(EW5 model)	CWN2309	90	Spring	CBH2681	
34	Screw	BMZ26P160FTC	91	Spring	CBH2682	D
35	Terminal(CN100)	CKF1064	92	Spring	CBH2683	
36	Terminal(CN604)	CKF1064	93	Connector	CKS4658	
37	Terminal(CN605)	CKF1064	94	Holder	CND3852	
38	Terminal(CN614)	CKF1064	95	Holder	CND3853	
39	Terminal(CN615)	CKF1064	96	Flexible PCB	CNQ1002	
40	Terminal(CN2601)	CKF1064	97	Arm	CNV8571	
41	Plug(CN802)	CKM1516	98	Arm	CNV8572	
42	Jack(CN2552)	CKN1043	99	Arm	CNV8573	
43	Connector(CN691)	CKS4674	100	Panel Unit	CXC7633	
44	Connector(CN824)	CKS4822	101	DVD Mechanism Module(MS5)	CXK6601	
45	Connector(CN971)	CKS4822	102	Fan Motor	CXM1284	E
46	Connector(CN2701)	CKS5038	103	Fan Motor	CXM1343	
47	Connector(CN2)	CKS5100	104	Mother Tuner Unit(UC model)	CWN2310	
48	Connector(CN607)	CKS5100		Mother Unit(EW5 model)	CWN2311	
49	Connector(CN608)	CKS5586	105	Connector(CN2801)	CKS4674	
50	Connector(CN692)	CKS5598	106	Connector(CN2803)	CKM1506	
51	Connector(CN731)	CKS5696	107	Holder	CND4039	
52	Shield	CND1949	108	Label(EW5 model)	CAN5448	
53	Shield	CND1950	109	Screw(M2 x 3)	CBA1797	
54	Shield	CND1951				
55	Shield	CND1952				F
56	Holder	CND4036				
57	Holder	CND4037				
58	Holder	CND4038				

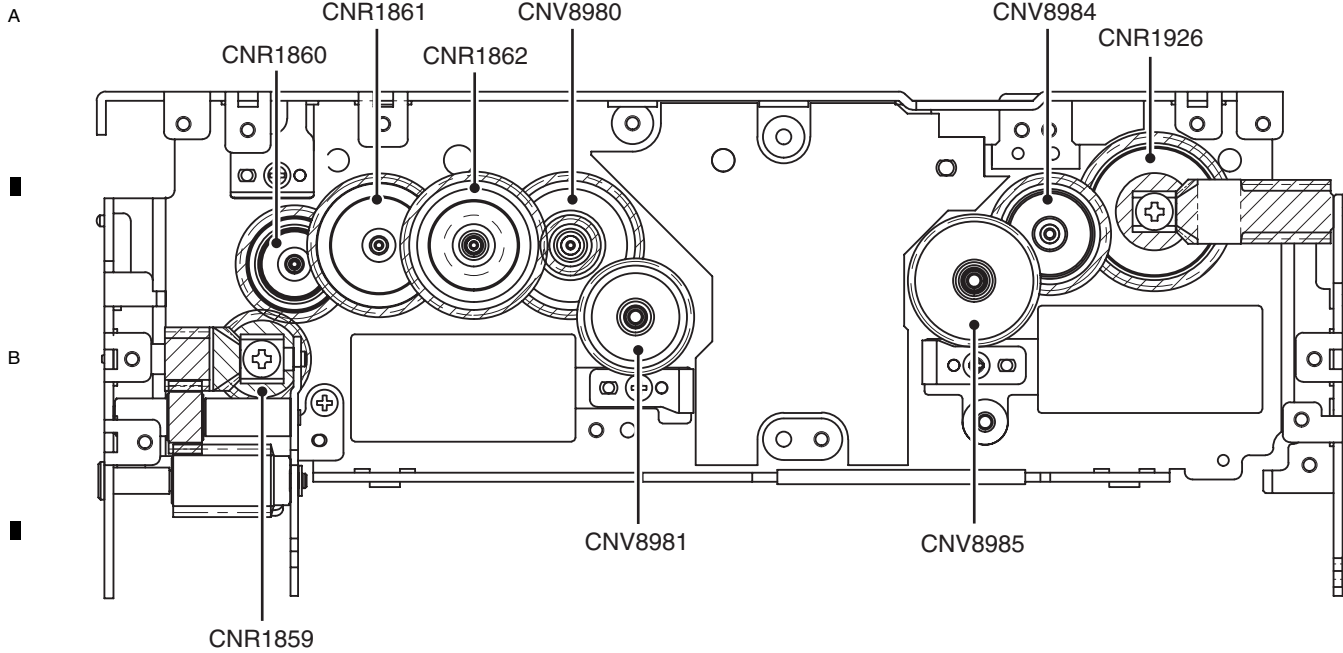
## 9.4 EXTERIOR(2)



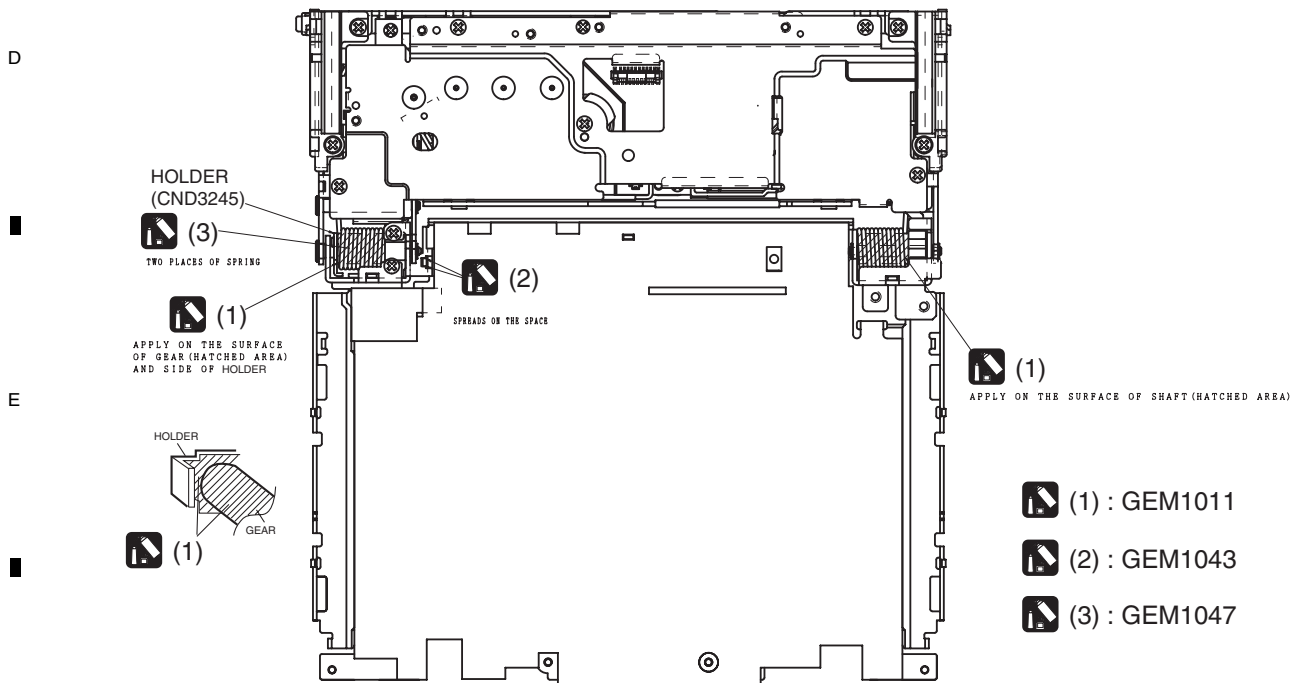
## EXTERIOR(2) SECTION PARTS LIST

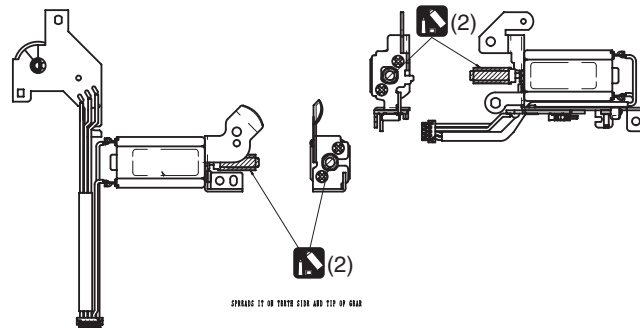
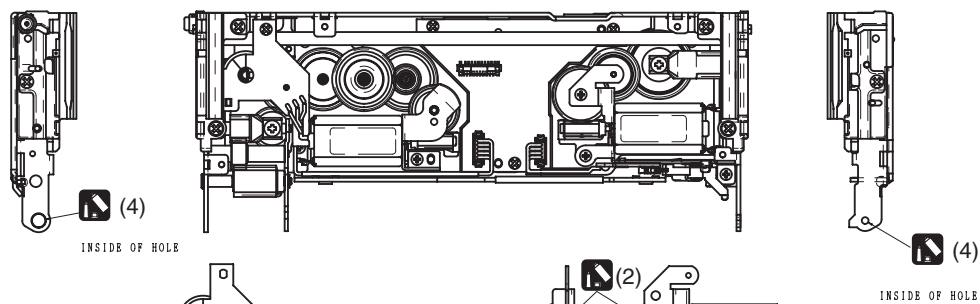
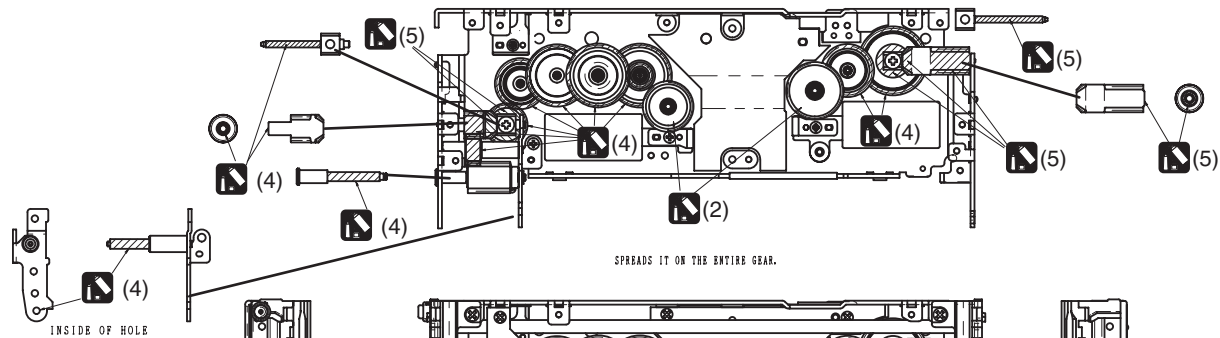
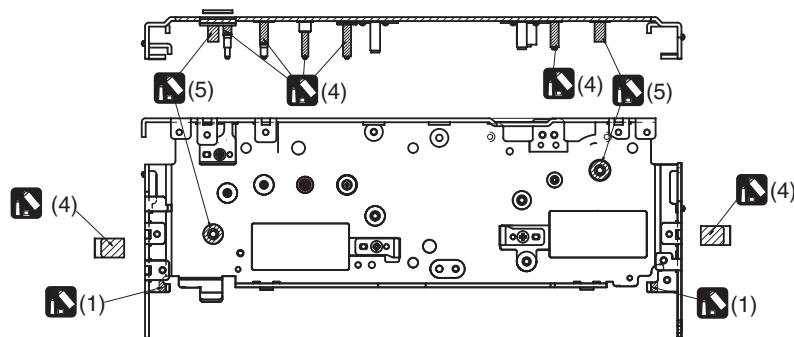
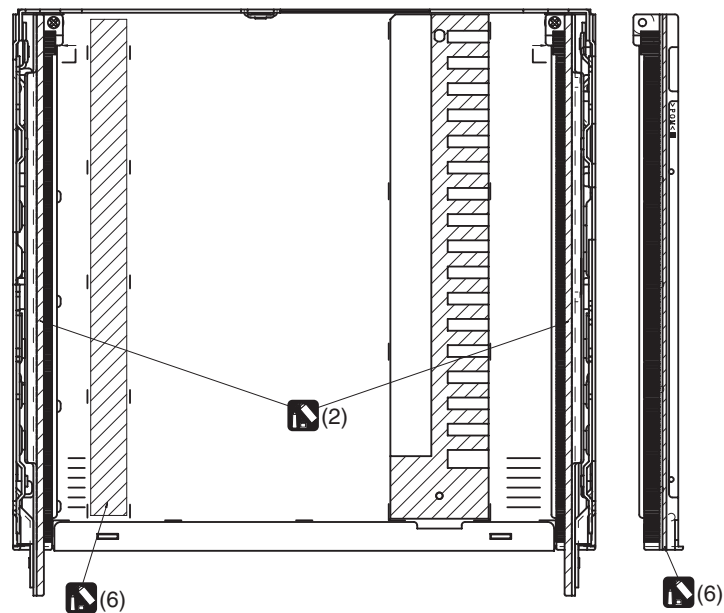
Mark No.	Description	Part No.	Mark No.	Description	Part No.	
1	Screw(M2 x 3)	CBA1797	50	Gear	CNV8981	
2	Spring	CBL1766				
3	Holder	CND3271	51	Gear	CNV8983	A
4	Flexible PCB	CNQ1001	52	Gear	CNV8984	
5	Cover	CNV9643	53	Gear	CNV8985	
			54	Gear	CNV8987	
6	Arm	CNV9644	55	Rack	CNV8995	
7	Screw(M2 x 2)	CBA2101				
8	Drive Unit	CXC7637	56	Rack	CNV8996	
9	Screw(M2 x 2)	CBA1608	57	Guide	CNV8999	
10	Screw(M2 x 2.5)	CBA1615	58	Lever	CNV9000	
			59	Arm	CNV9001	
11	Screw(M2 x 2)	CBA1872	60	Guide	CNV9003	B
12	Screw(M2 x 3)	CBA1877				
13	Screw(M2.3 x 6)	CBA2027	61	Guide	CNV9004	
14	Washer	CBF1037	62	Frame Unit	CXC6143	
15	Washer	CBF1039	63	Holder Unit	CXC6145	
			64	Motor Unit	CXC6638	
16	Washer	CBF1064	* 65	Guide	CNV9534	
17	Spring	CBH2906				
18	Spring	CBH2907	66	Motor Unit	CXC6639	
19	Spring	CBH2908	* 67	Guide	CNV9535	
20	Spring	CBH2909	68	Main PCB Unit(Service)	CXX2316	
			69	Sheet	CNN1349	C
21	Spring	CBL1723	* 70	Connector(CN102)	CKS4734	
22	Spring	CBL1734				
23	Cord	CDE8127	* 71	Connector(CN103)	CKS4735	
24	Cord	CDE8128	72	Connector(CN101)	CKS5572	
25	Shaft	CLA4651	73	Screw	JFZ17P025FTC	
			74	Washer	YE15FTC	
26	Shaft	CLA4661	75	Cover Unit	CXC7882	
27	Shaft	CLA4662				
28	Shaft	CLA4663	* 76	Chassis Unit	CXC7638	
29	Shaft	CLA4664	77	Lever	CND4077	
30	Shaft	CLA4665	78	Spring	CBH2750	D
			79	Bracket Unit	CXC7978	
31	Shaft	CLA4666	* 80	Spacer	CNN2051	
32	Holder	CND3245				
33	Cover	CND3252	* 81	Case Unit	CXC7640	
34	Sheet	CNN1055	* 82	Insulator	CNN1583	
35	Sheet	CNN1056	83	Label	CRL2936	
			84	Screw(M2 x 1.4)	CBA2106	
36	Insulator	CNN1058	85	Insulator	CNN1938	
37	Sheet	CNN1065				
38	Insulator	CNN1068				
39	Gear	CNR1855				E
40	Gear	CNR1856				
41	Gear	CNR1857				
42	Gear	CNR1859				
43	Gear	CNR1860				
44	Gear	CNR1861				
45	Gear	CNR1862				
46	Gear	CNR1864				
47	Gear	CNR1925				F
48	Gear	CNR1926				
49	Gear	CNV8980				

## The gear assembly figure of the Drive Unit



## Grease

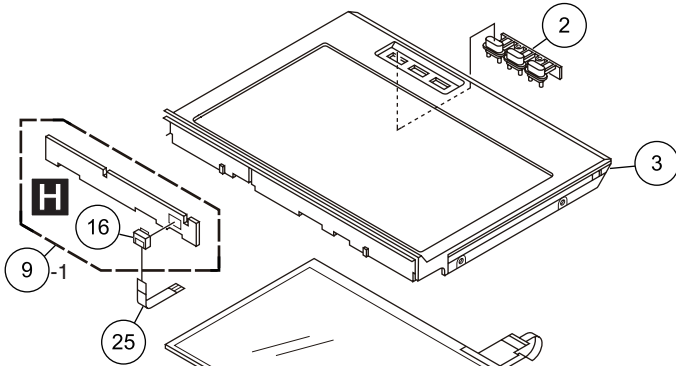




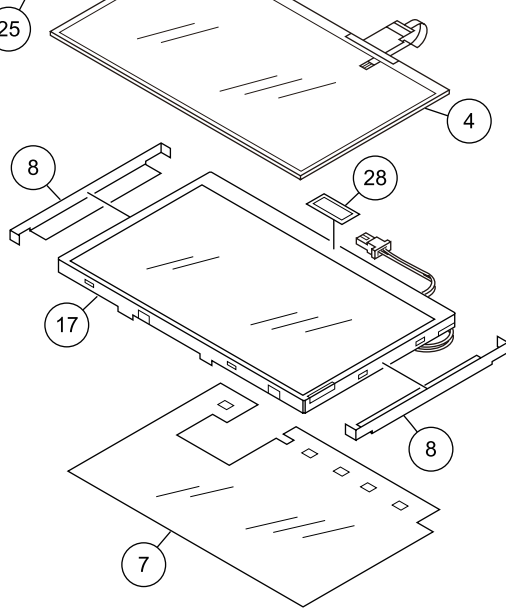
- (1) : GEM1011
- (2) : GEM1043
- (3) : GEM1047
- (4) : GEM1024
- (5) : GEM1072
- (6) : GEM1071

## 9.5 EXTERIOR(3)

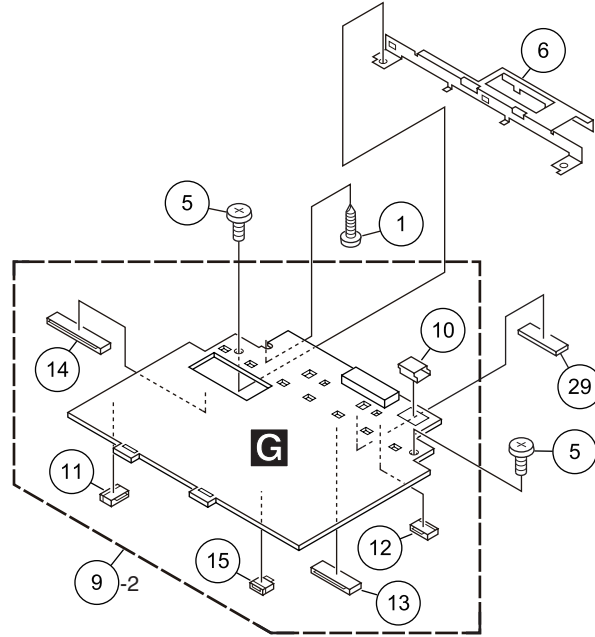
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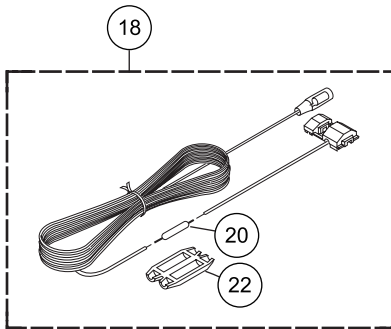
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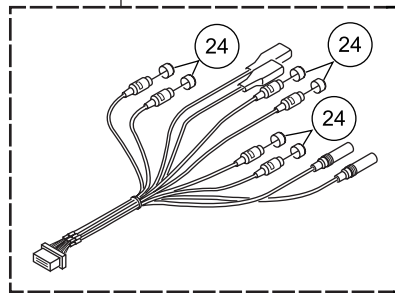
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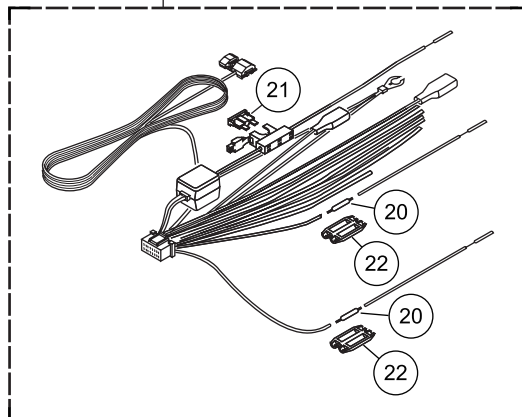
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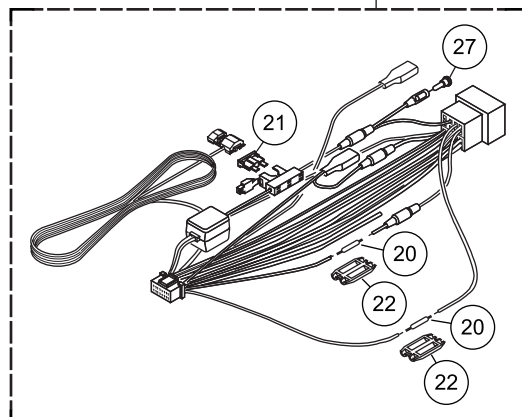
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19



26



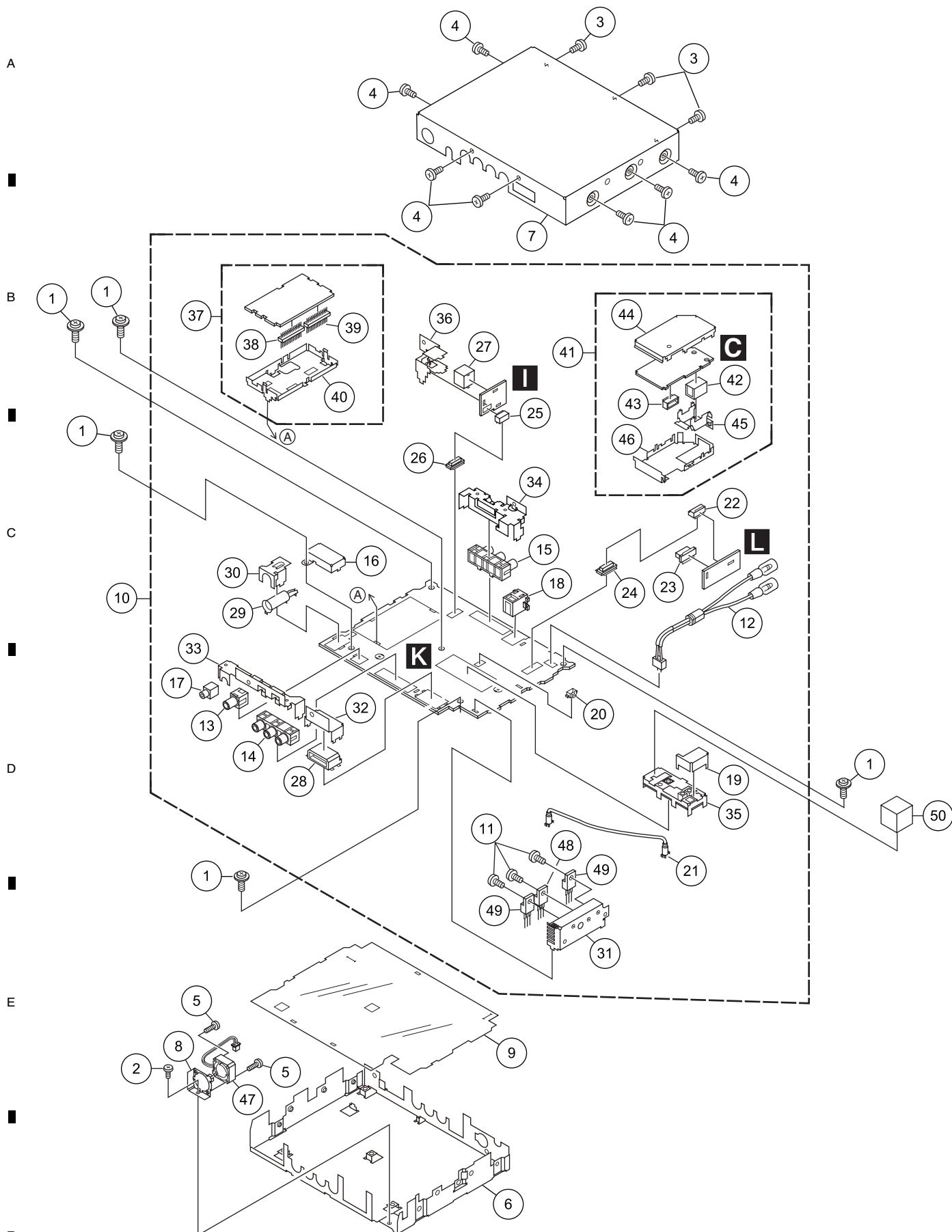
F



## EXTERIOR(3) SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Screw	BPZ20P060FTC
2	Button(AV, MAP, MENU)	CAI1235
3	Grille(UC model)	CNS9020
	Grille(EW5 model)	CNS9019
4	Touch Panel	CSX1115
5	Screw(M2 x 2)	CBA1872
6	Holder	CND4041
7	Insulator	CNN1667
8	Sheet	CNN1754
9	Monitor Unit	CWN2304
10	Connector(CN5201)	CKS4428
11	Connector(CN5801)	CKS5037
12	Connector(CN5001)	CKS5105
13	Connector(CN5003)	CKS5698
14	Connector(CN5501)	CKS5773
15	Connector(CN5002)	CKS5811
16	Connector(CN5901)	CKS5811
17	LCD Module	CWX3264
18	Cord	CDE6825
19	Cord Assy(UC model)	CDP1058
20	Resistor	RS1/2PMF102J
⚠ 21	Fuse(10 A)	CEK1136
22	Cap	CNS1472
23	Cord Assy	CDP1059
24	Cap	CNV6727
25	FFC	CDE8460
26	Cord Assy(EW5 model)	CDP1057
27	Terminal Cover(EW5 model)	CKX-003
28	Insulator	CNN1939
29	Cushion	CNN1941

## 9.6 EXTERIOR(4)



## EXTERIOR(4) SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Screw	ASZ26P050FTC	46	Shield	CND1161
2	Screw	BMZ26P030FTC			
3	Screw	BMZ26P060FTB	47	Fan Motor	CXM1343
4	Screw	BSZ26P060FTC	48	Transistor(Q1907)	2SB1185
5	Screw(M2.6 x 14)	CBA2103	49	Transistor(Q1908,1909)	2SD2375
			50	Gasket(EW5 model)	CNN1804
6	Chassis	CNA3007			
7	Case(UC model)	CNB3408			
	Case(EW5 model)	CNB3409			
8	Holder	CND1905			
9	Insulator	CNN1662			
10	Mother Tuner Unit(UC model)	CWN2310			
	Mother Unit(EW5 model)	CWN2311			
11	Screw	BMZ26P060FTC			
12	Cord Assy(CN1951)	CDE8563			
13	Pin Jack(CN1351)	CKB1065			
14	Pin Jack(CN1301)	CKB1071			
15	Pin Jack(CN1701)	CKB1071			
16	Shield(EW5 model)	CND4044			
17	Jack(CN1352)	CKN1046			
18	Connector(CN1101)	CKS3414			
19	Shield(EW5 model)	CND2814			
20	Connector(CN1950)	CKS4822			
21	Cord(EW5 model)	CDH1332			
22	Connector(CN552)	CKS5204			
23	Connector(CN551)	CKS5205			
24	Connector(CN1841)	CKS5205			
25	Connector(CN2002)	CKS5553			
26	Connector(CN1751)	CKS5554			
27	Connector(CN2001)	CKS5683			
28	Connector(CN1001)	CKS5696			
29	Antenna Jack(CN1402)	CKX1056			
30	Holder	CND1900			
31	Holder	CND1903			
32	Holder	CND1904			
33	Holder	CND3993			
34	Holder	CND3994			
35	Tuner Unit(Y1801)(EW5 model)	CWE1674			
36	Holder	CND4043			
37	FM/AM Tuner Unit(Y1401)(UC model)	CWE2046			
	FM/AM Tuner Unit(Y1401)(EW5 model)	CWE2045			
38	Connector(CN101)	CKS4653			
39	Connector(CN102)	CKS4653			
40	Holder	CND1432			
41	GPS Unit(UC model)	CWX3533			
	GPS Unit(EW5 model)	CWX3534			
42	Connector(CN504)	CKS4432			
43	Connector(CN461)	CKS5204			
44	Shield	CNC9192			
45	Holder	CNC9252			

## 9.7 DVD MECHANISM MODULE

A

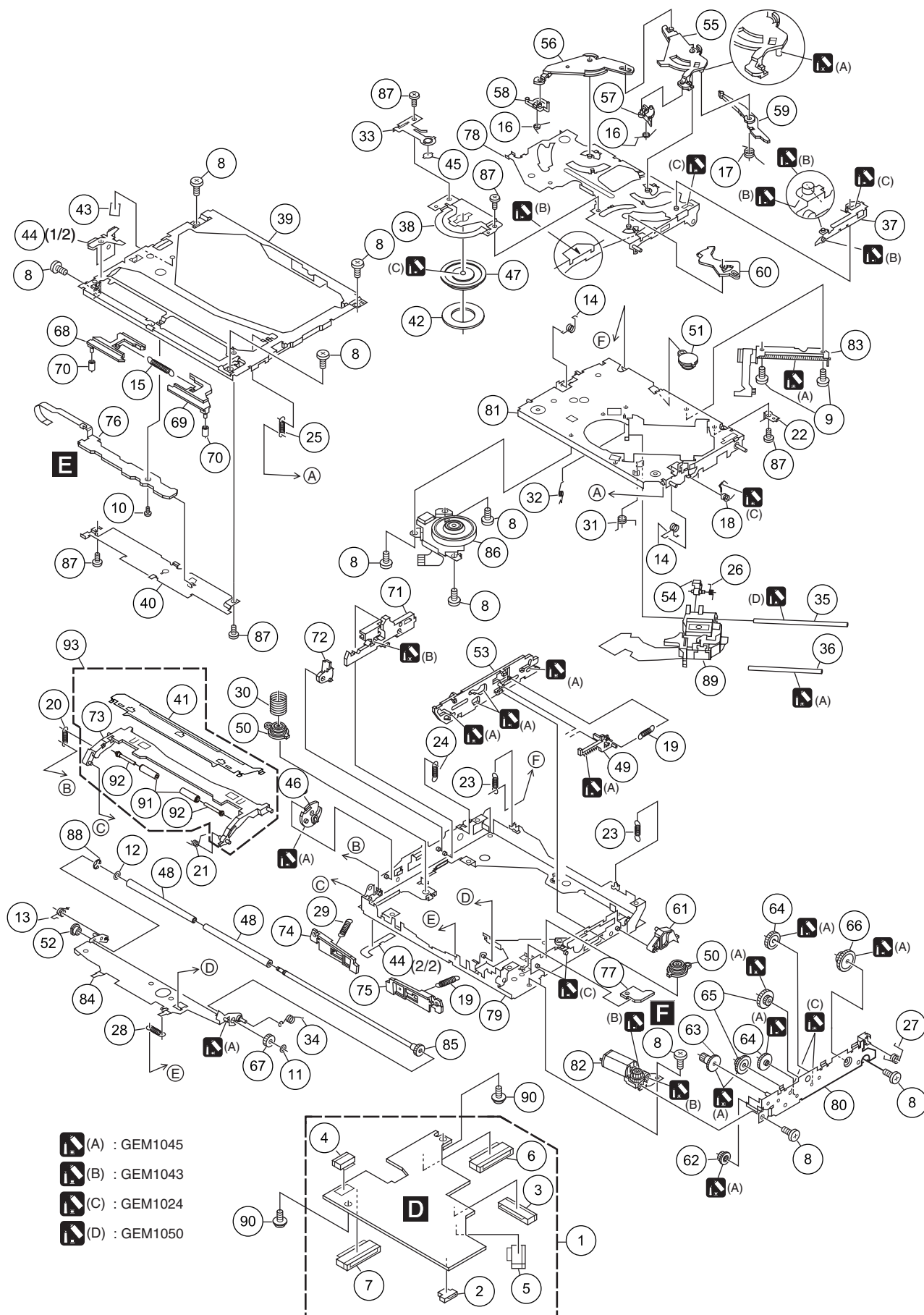
B

C

D

E

F



# DVD MECHANISM MODULE SECTION PARTS LIST

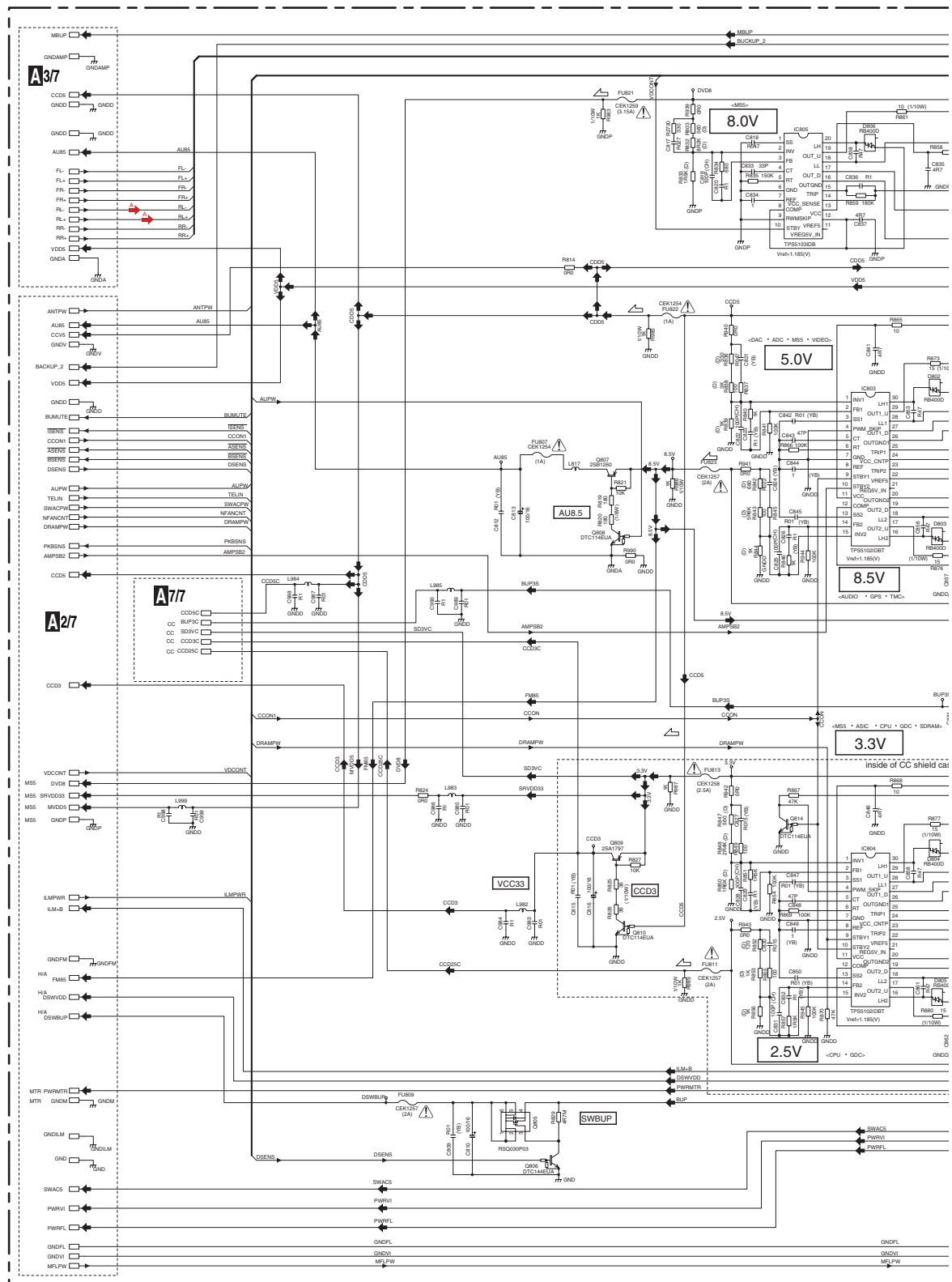
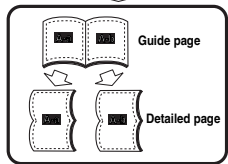
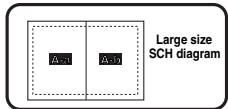
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	DVD Core Unit	CWX3401	50	Damper	CNV9061
2	Connector(CN1852)	CKS4817			
3	Connector(CN1101)	CKS4841	51	Damper	CNV9062
4	Connector(CN1301)	CKS5017	52	Collar	CNV8845
5	Connector(CN1201)	CKS5043	53	Lever	CNV8865
			54	Rack	CNV9063
6	Connector(CN1901)	CKS5054	55	Arm	CNV8867
7	Connector(CN2001)	CKS5054			
8	Screw	BMZ20P020FTC	56	Arm	CNV8868
9	Screw	BMZ20P025FNI	57	Arm	CNV9577
10	Screw	CBA1787	58	Arm	CNV8870
			59	Arm	CNV8871
11	Washer	CBF1038	60	Arm	CNV8872
12	Washer	CBF1064			
13	Spring	CBH2586	61	Arm	CNV8873
14	Spring	CBH2588	62	Gear	CNV8874
15	Spring	CBH2589	63	Gear	CNV8875
			64	Gear	CNV8876
16	Spring	CBH2590	65	Gear	CNV8877
17	Spring	CBH2591			
18	Spring	CBH2592	66	Gear	CNV8878
19	Spring	CBH2593	67	Gear	CNV8879
20	Spring	CBH2596	68	Lever	CNV8903
			69	Lever	CNV8904
21	Spring	CBH2597	70	Roller	CNV8905
22	Spring	CBL1726			
23	Spring	CBH2599	71	Lever	CNV8908
24	Spring	CBH2600	72	Arm	CNV8909
25	Spring	CBH2601	73	Guide	CNV9569
			74	Arm	CNV9116
26	Spring	CBH2926	75	Arm	CNV9117
27	Spring	CBH2604			
28	Spring	CBH2605	76	Compound(A) Unit	CWX3154
29	Spring	CBH2710	77	Compound(B) Unit	CWX3394
30	Spring	CBH2711	78	Arm Unit	CXC7872
			79	Frame Unit	CXC6442
31	Spring	CBH2935	80	Bracket Unit	CXB8685
32	Spring	CBH2890			
33	Spring	CBL1689	81	Chassis Unit	CXC6443
34	Spring	CBH2898	82	Motor Unit(LOAD)(M1)	CXC4912
35	Shaft	CLA4206	83	Motor(STEPPING)(M2)	CXM1364
			84	Arm Unit	CXC5486
36	Shaft	CLA4701	85	Roller Unit	CXC5708
37	Lever	CNC9933			
38	Holder	CND2643	86	Motor(SPDL)(M3)	CXM1362
39	Frame	CND2250	87	Screw	JFZ20P018FTC
40	Holder	CND2251	88	Washer	YE20FTC
			89	Pickup Unit(Service)	CXX2118
41	Holder	CND3936	90	Screw	IMS20P030FTC
42	Sheet	CNM6883			
43	Sheet	CNM8697	91	Collar	CNV9570
44	Sheet	CNM9658	92	Shaft	CLA4771
45	Sheet	CNM9407	93	Guide Unit	CXC8572
46	Cam	CNV7156			
47	Clamper	CNV7158			
48	Roller	CNV7165			
49	Rack	CNV7175			

# 10. SCHEMATIC DIAGRAM

## 10.1 CC UNIT(P/S)(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

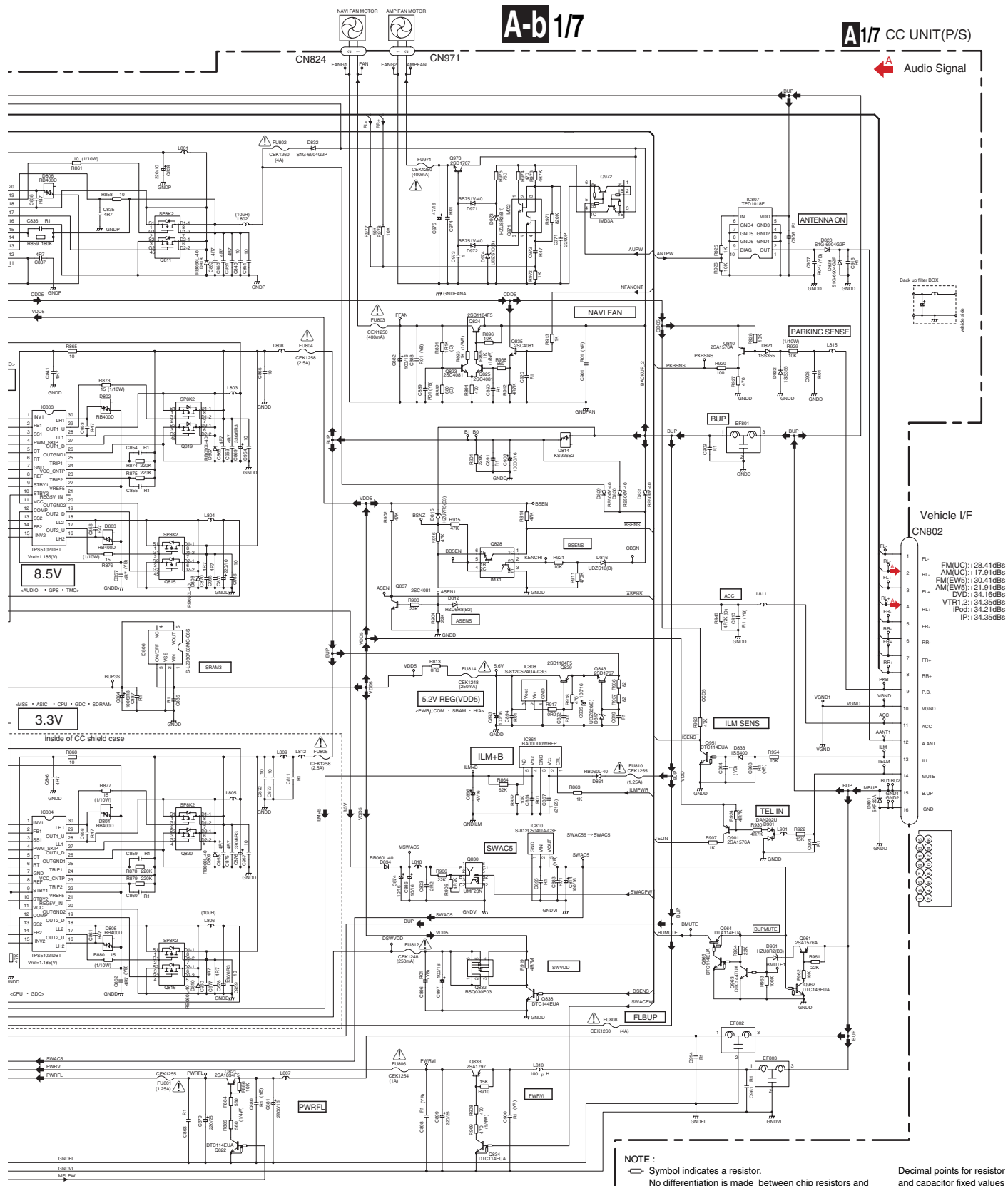
A-a 1/7



A-b 1/7

A1/7 CC UNIT(P/S)

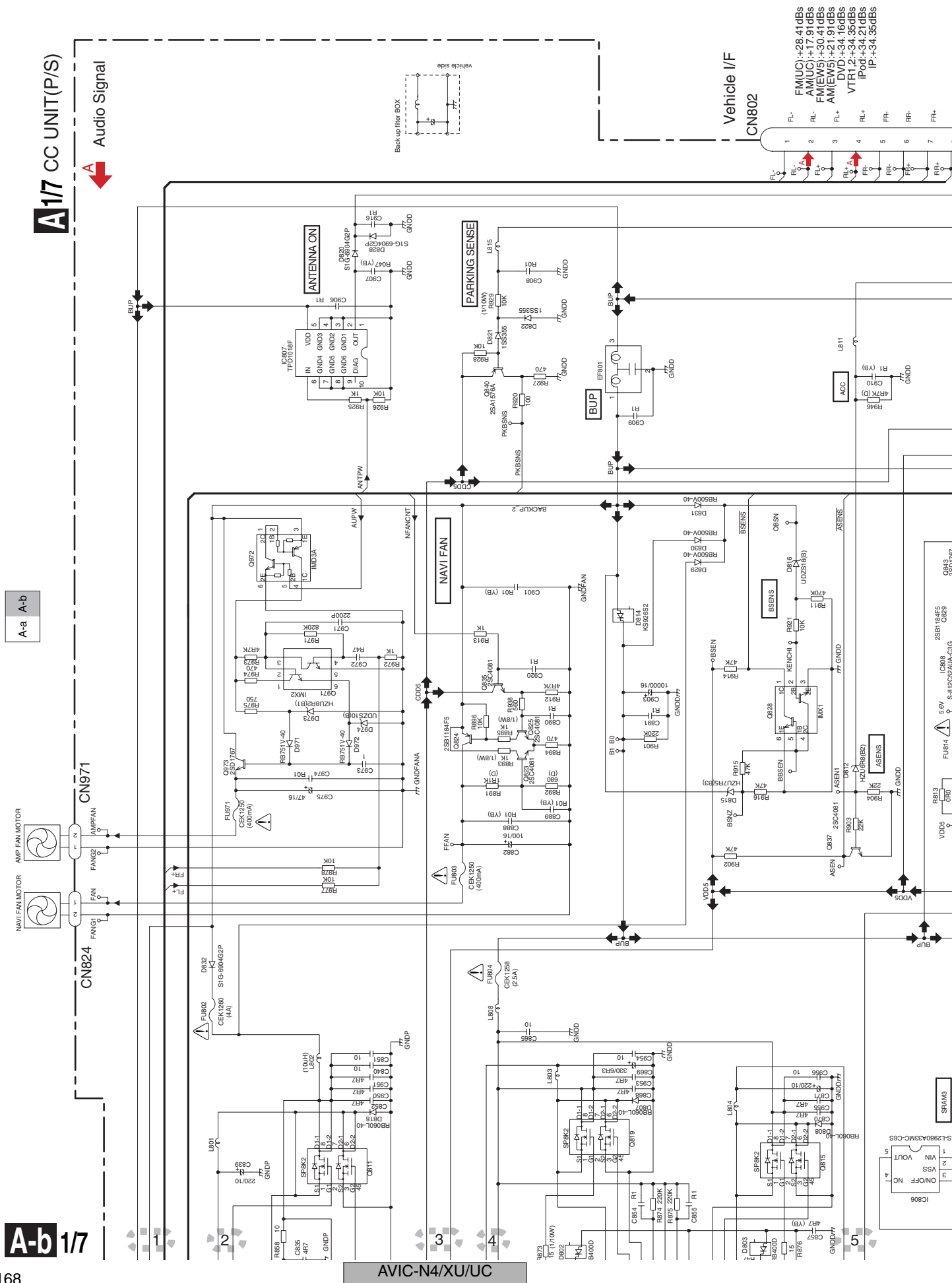
Audio Signal



The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

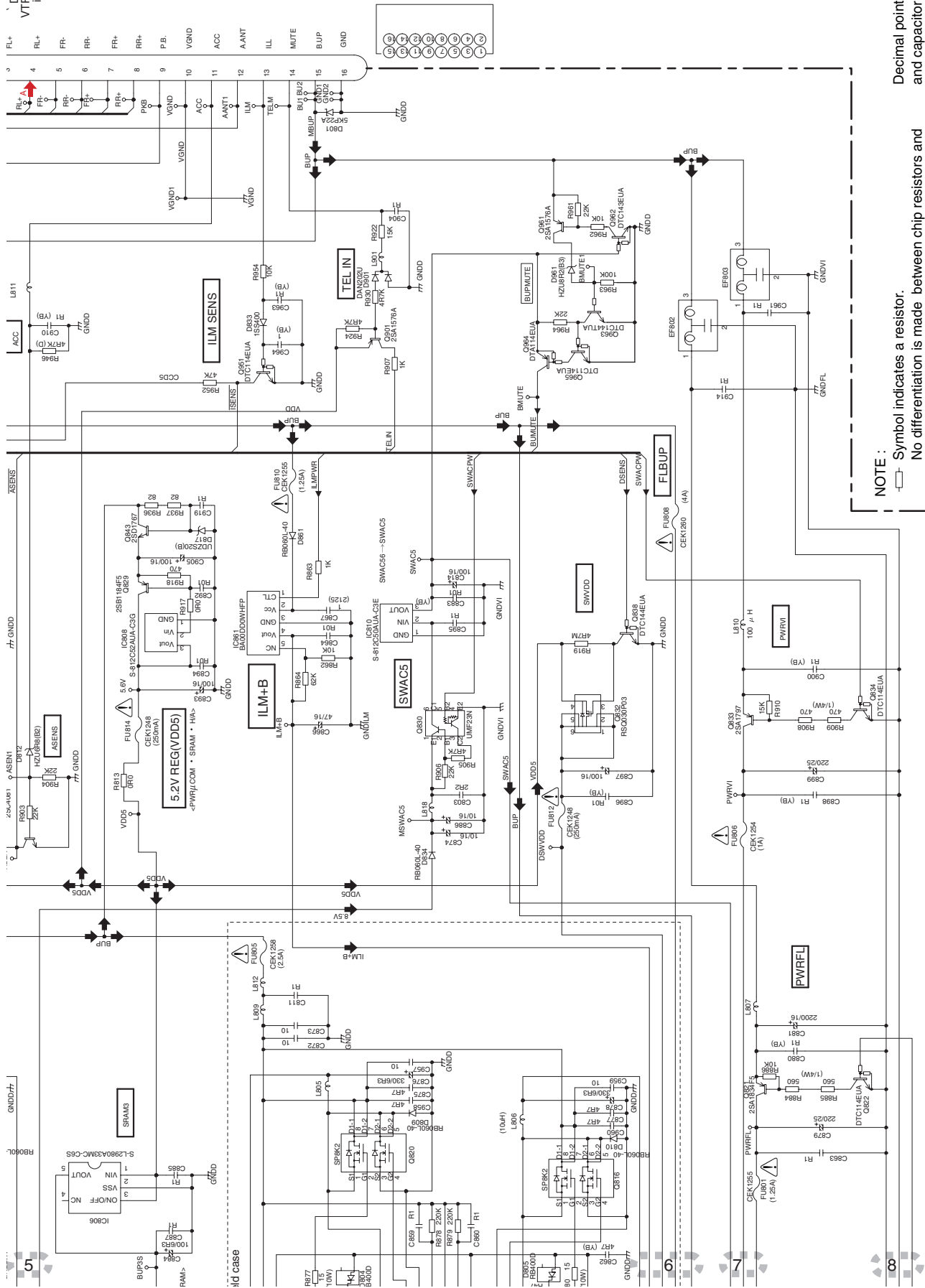
AVIC-N4/XU/UC

A1/7





DVD: +34.16dBs  
VTR: +34.35dBs  
iPod: +34.21dBs  
IP: +34.35dBs

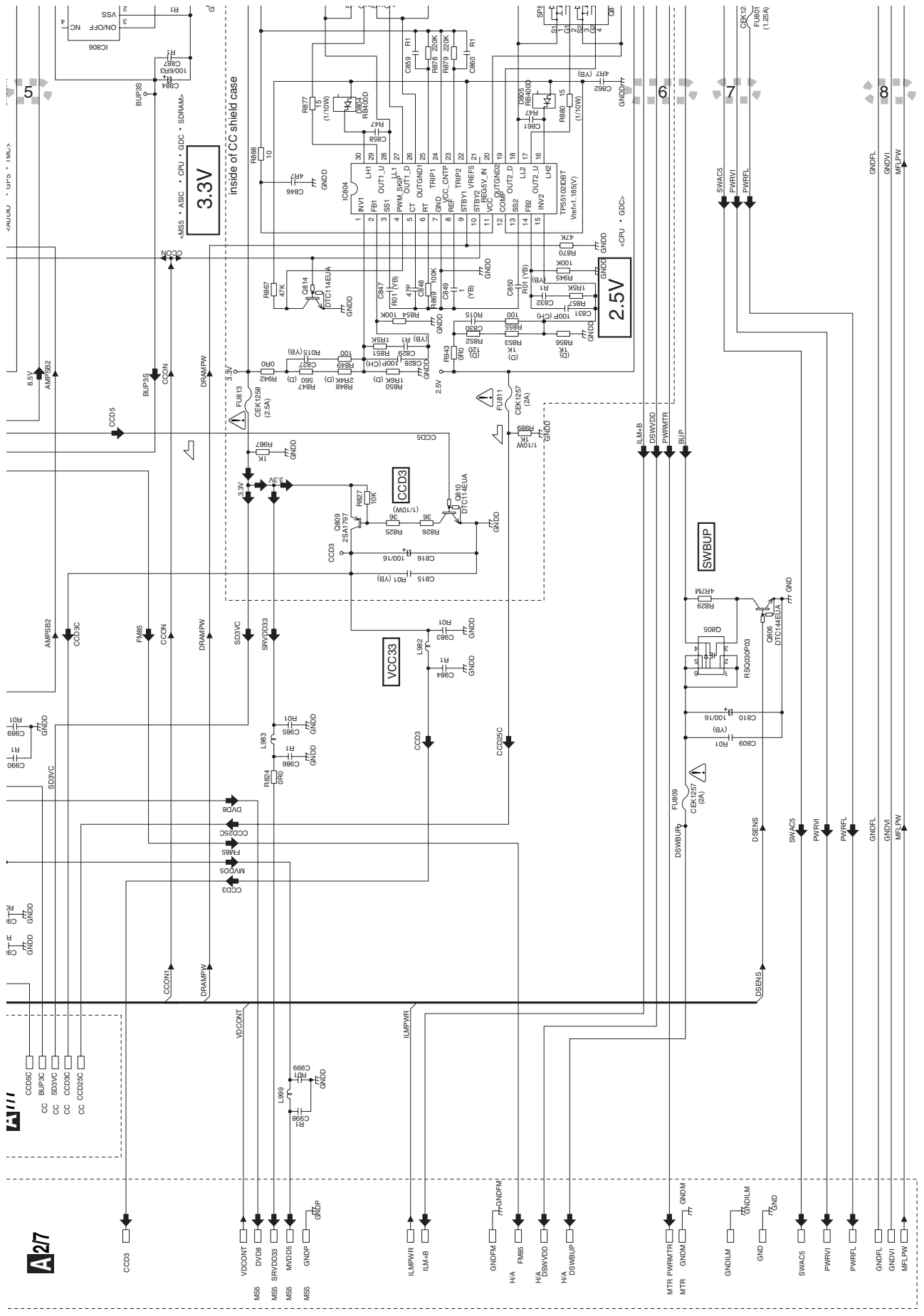


NOTE :  
 Symbol indicates a resistor.  
 No differentiation is made between chip resistors and discrete resistors.  
 Symbol indicates a capacitor.  
 No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as :  
 2.2 — 2R2  
 0.022 — R022

The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

F



A-b 1/7

A-a A-b

A-a 1/7

## A

B

C

D

E

F

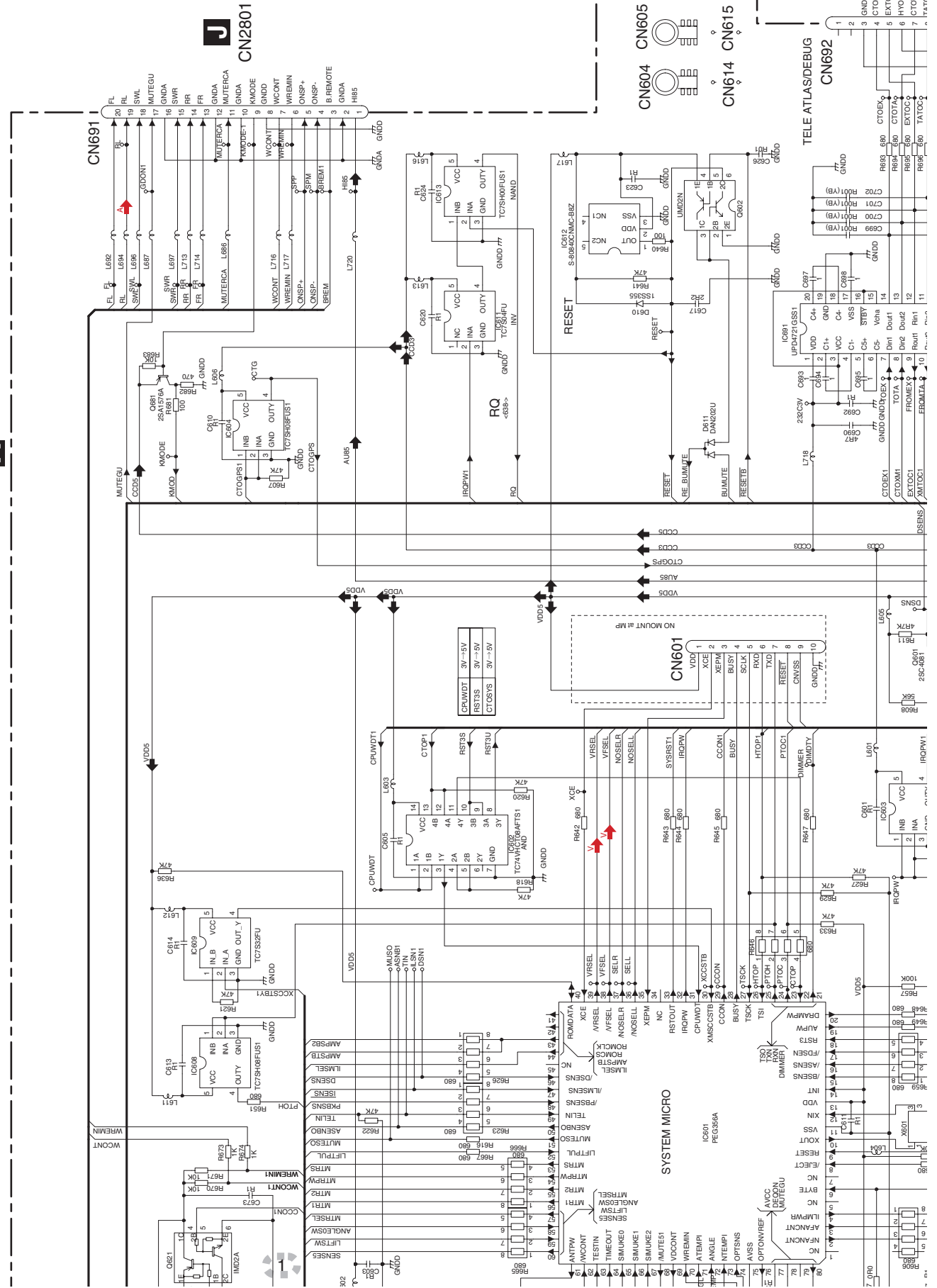


4

**A2/7** CC UNIT(SYS COM,VIDEO,IF)



A27 CC UNIT(SYSCOM,VIDEO,IF)



A

B

C

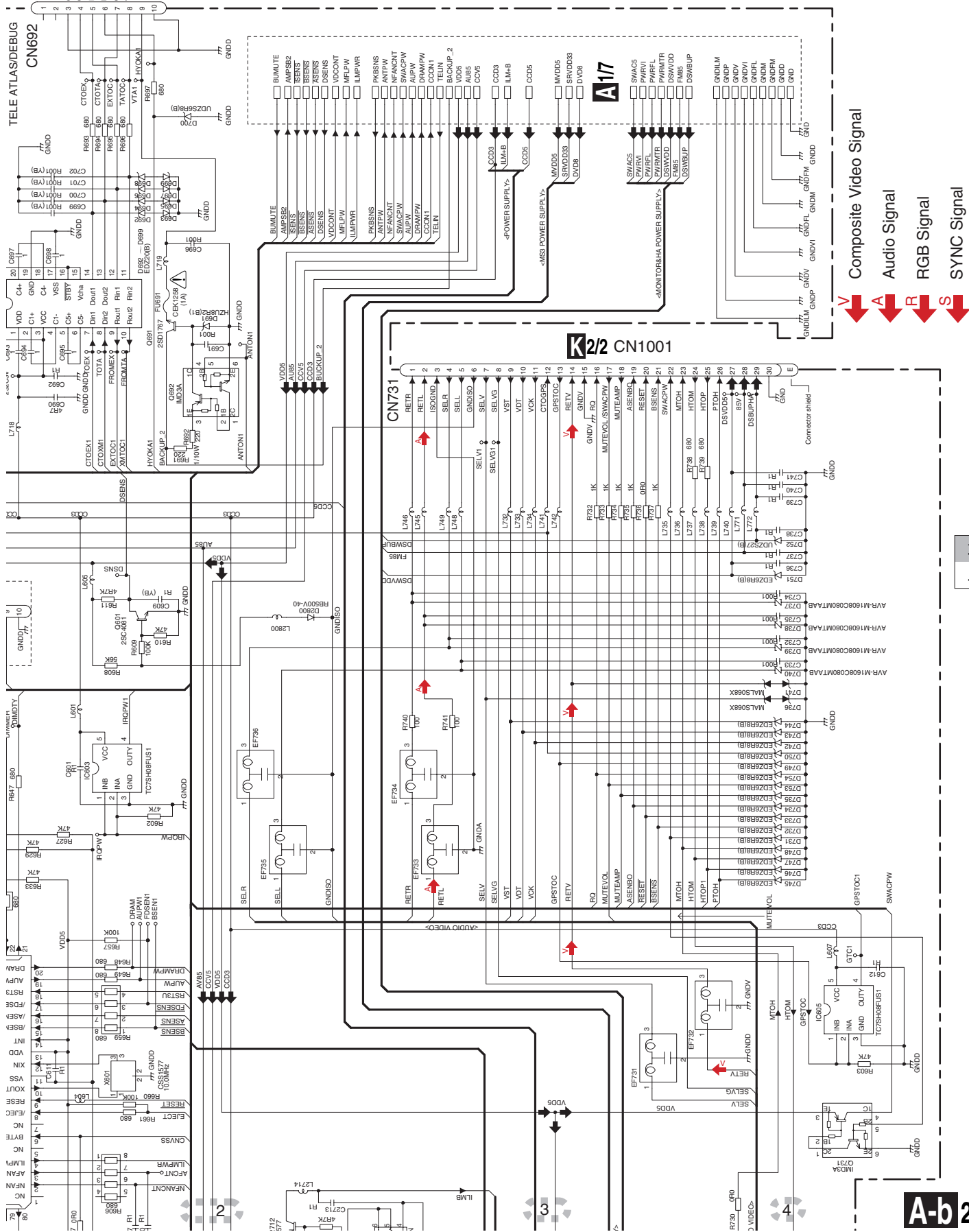
D

E

F

A-a A-b

A-b 2/7



A-a A-b

A-b 2/7

AVIC-N4/XU/UC



A

A-b 2/7

B

C

D

E

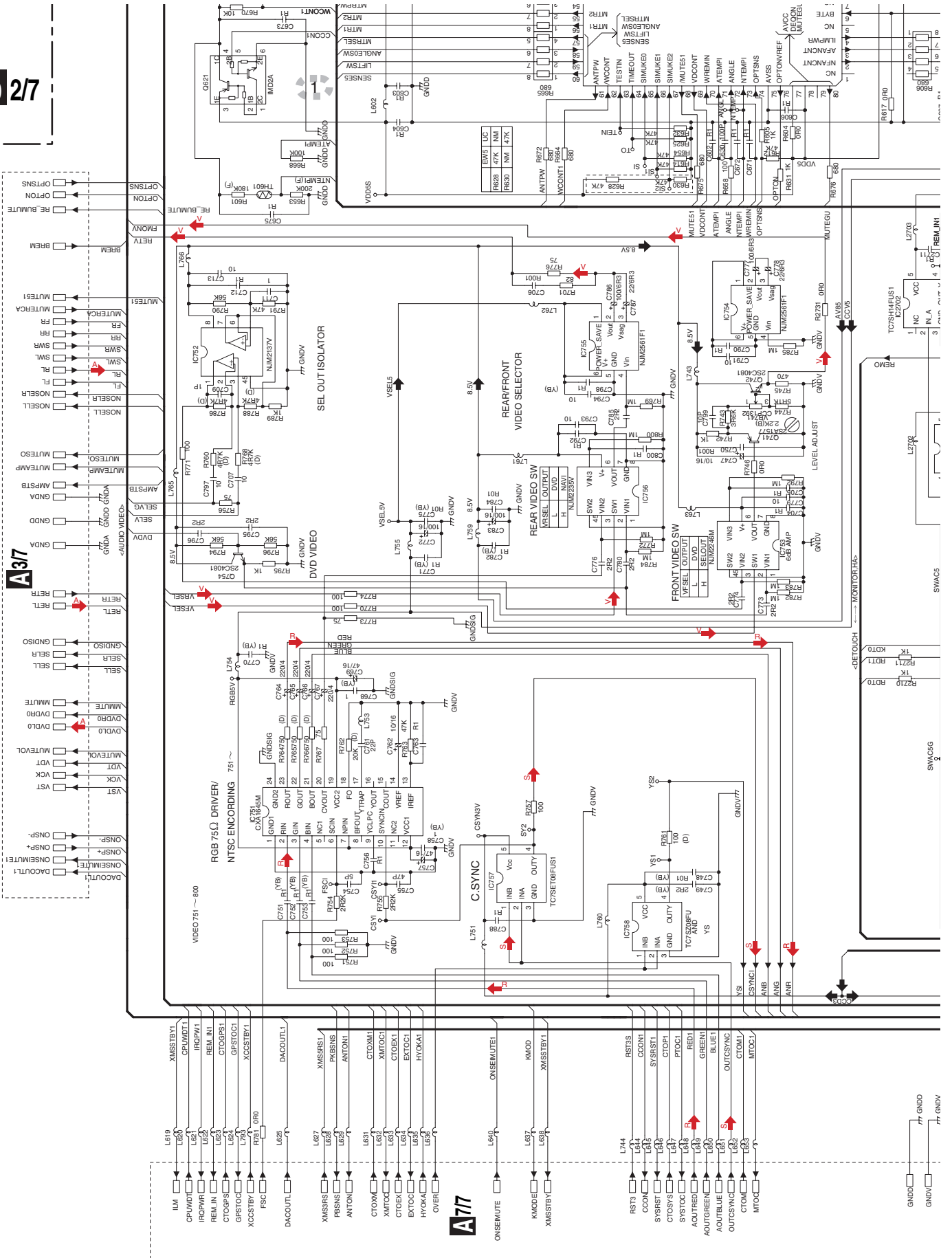
F

A-a

A3/7

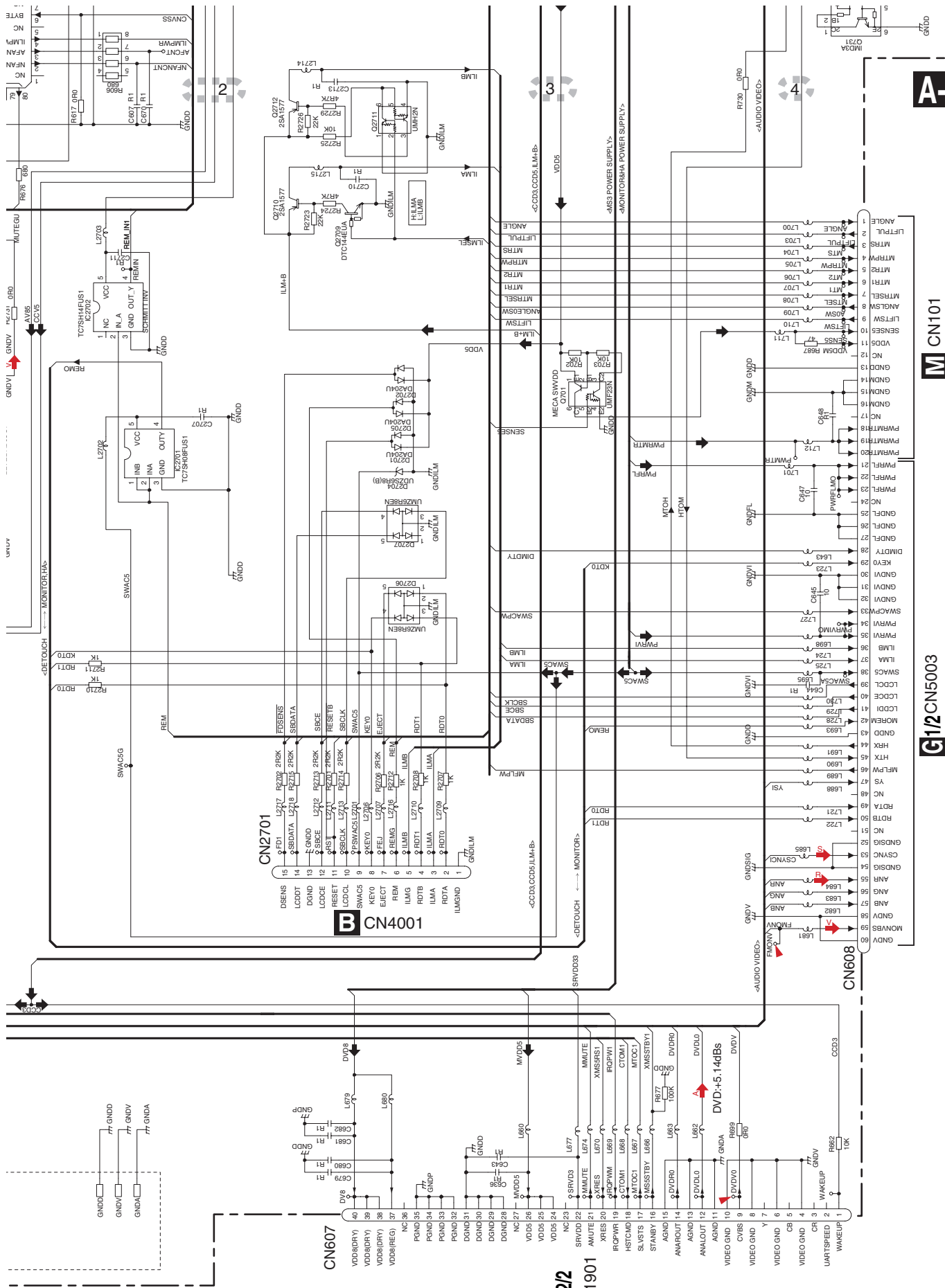
A7/7

AVIC-N4/XU/UC



A-a 2/7





A-b 2/7

M CN101

G1/2CN5003

A-a A-b

A-a 2/7

AVIC-N4/XU/UC

A



C

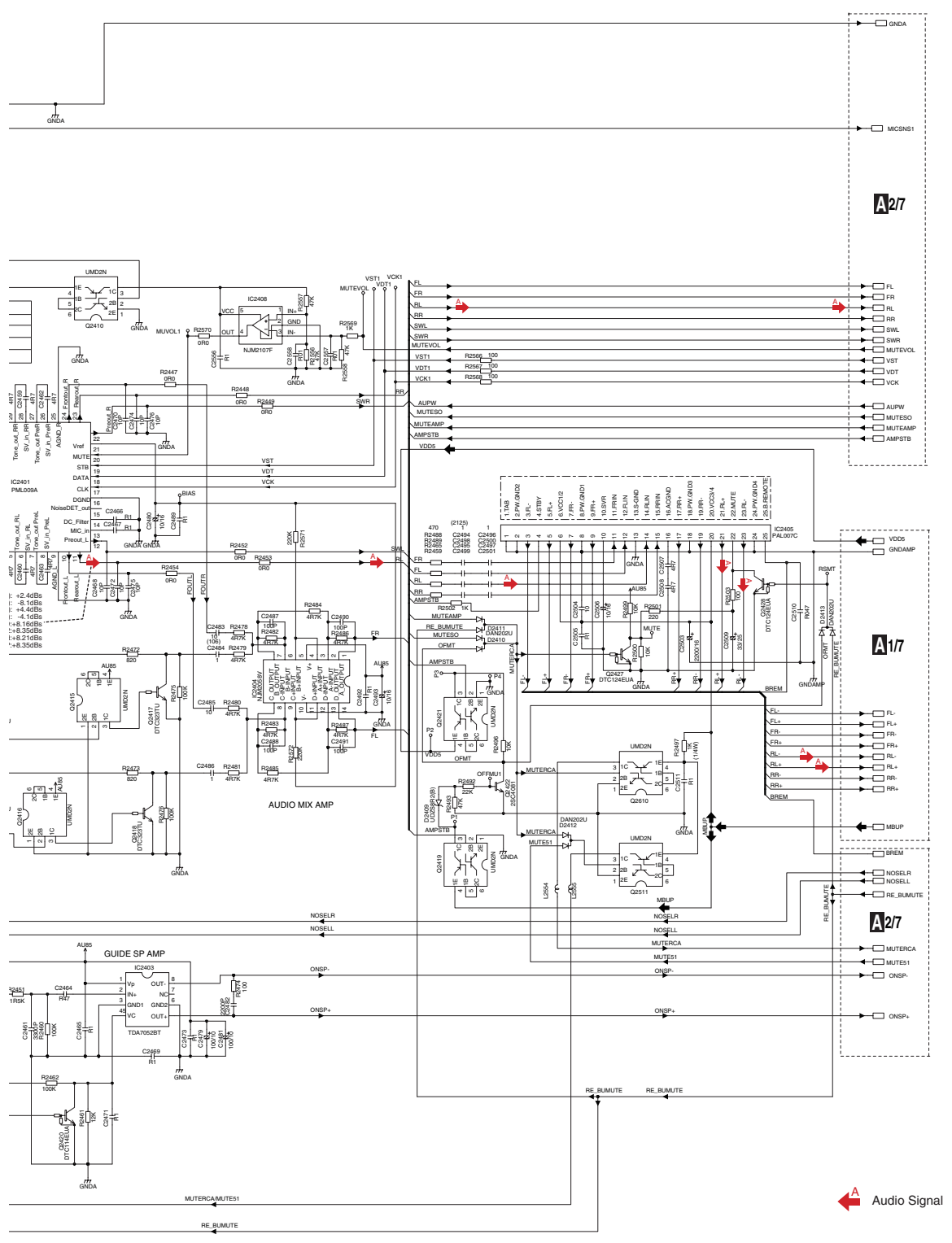
D

E

F

A-b3/7

A3/7 CC UNIT(AUDIO)



1

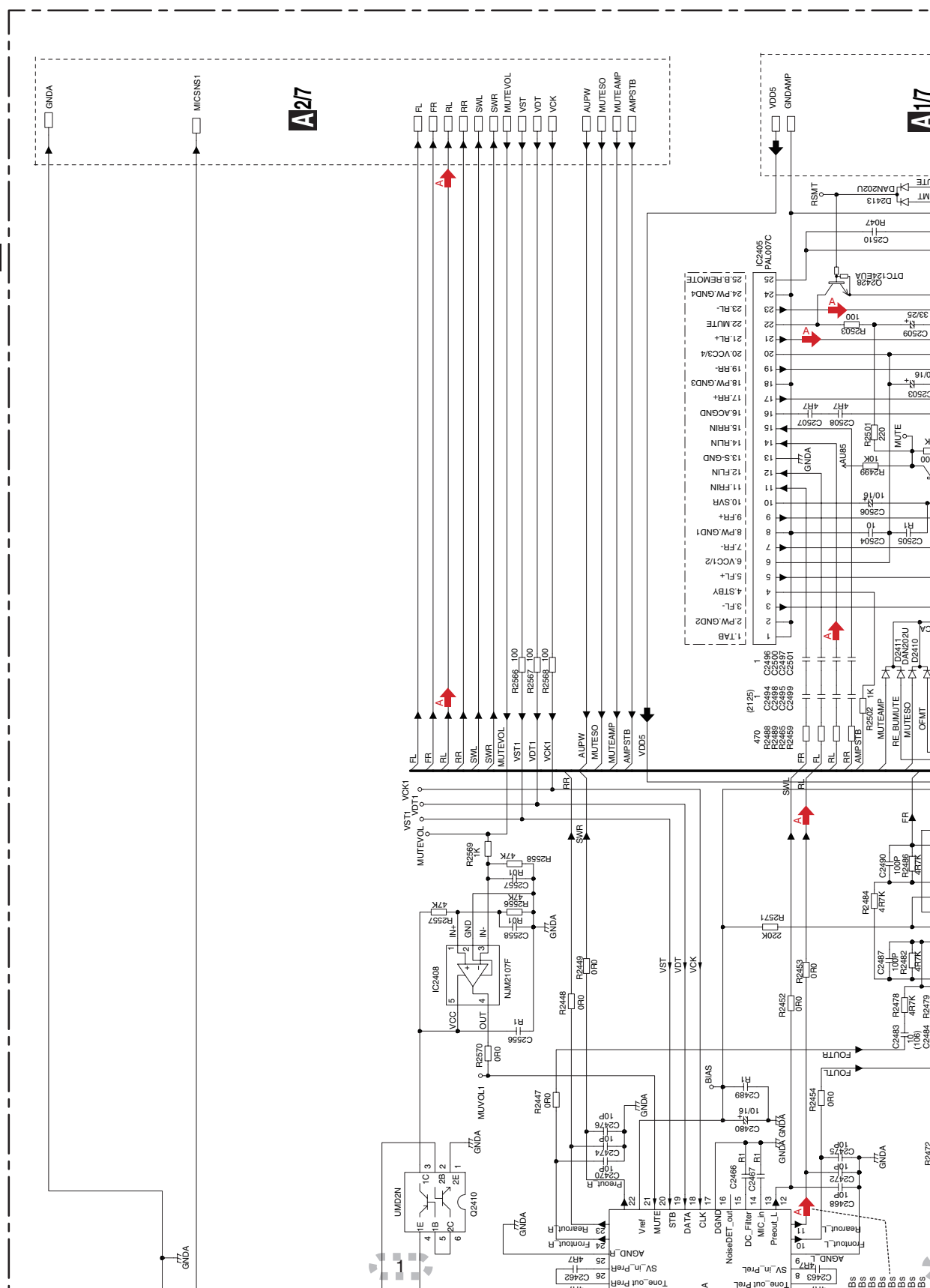
2

3

4

F

180





**A-b 3/7**

A

A-b 3/7

B

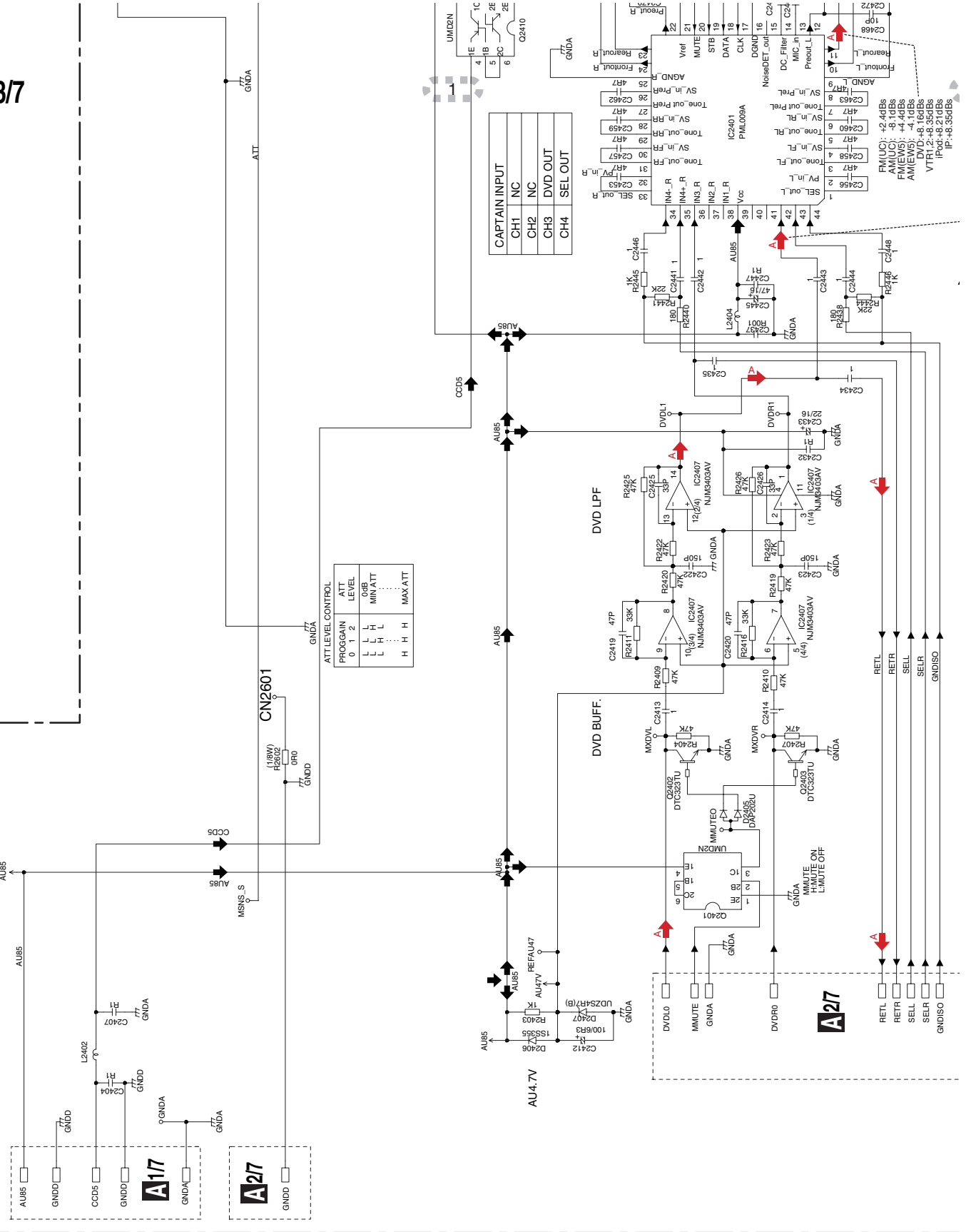
C

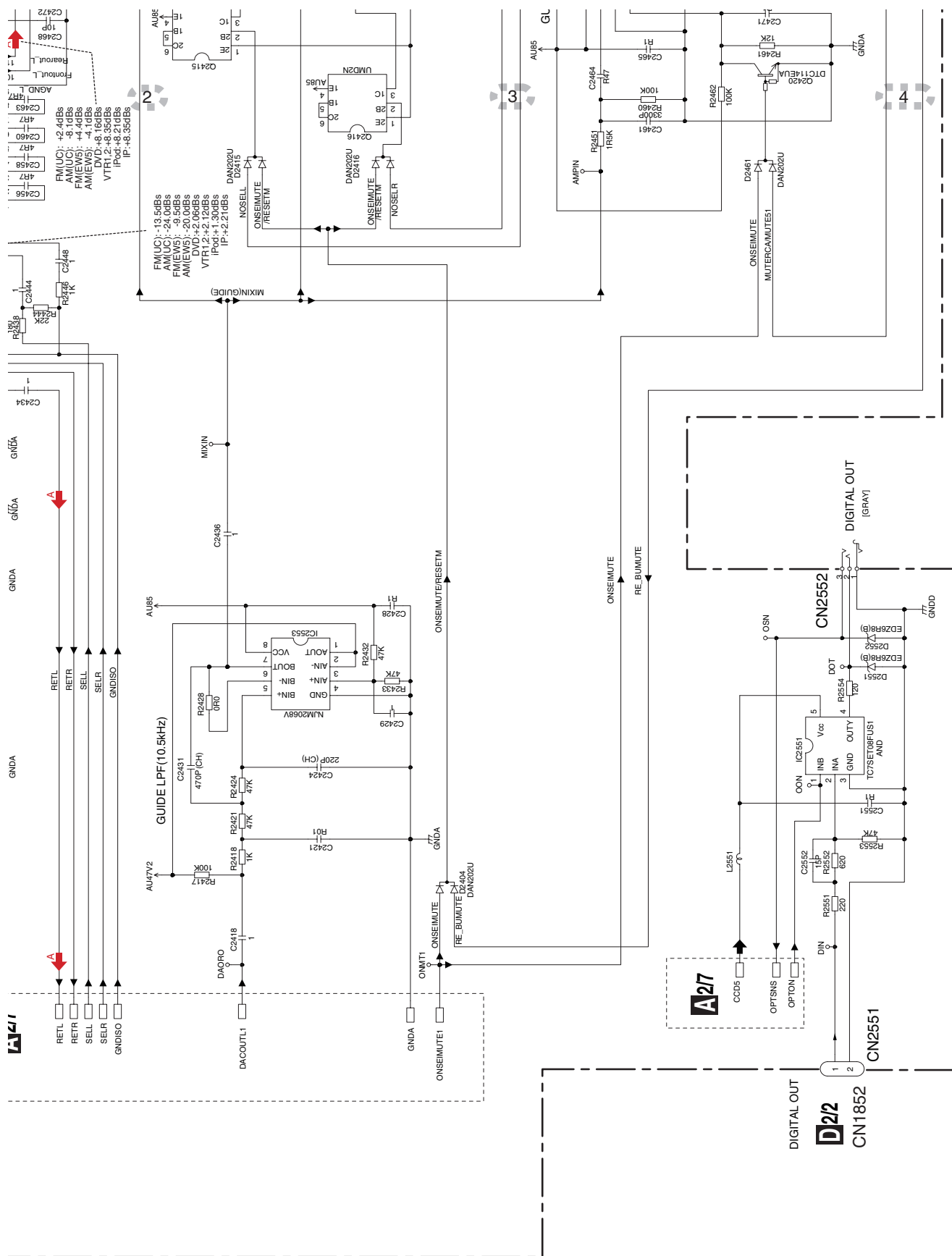
D

E

F

A-a A-b





**A-a 4/7**





**A4/7** CC UNIT(CPU,ASIC,SDRAM)



A

B

C

D

E

F

1

2

3

4

A417 CC UNIT(CPU,ASIC,SDRAM)

A717

ASIC

IC5

PD6336C

D2/2 CN2001

A-a A-b

A-b 4/7

AVIC-N4/XU/UC



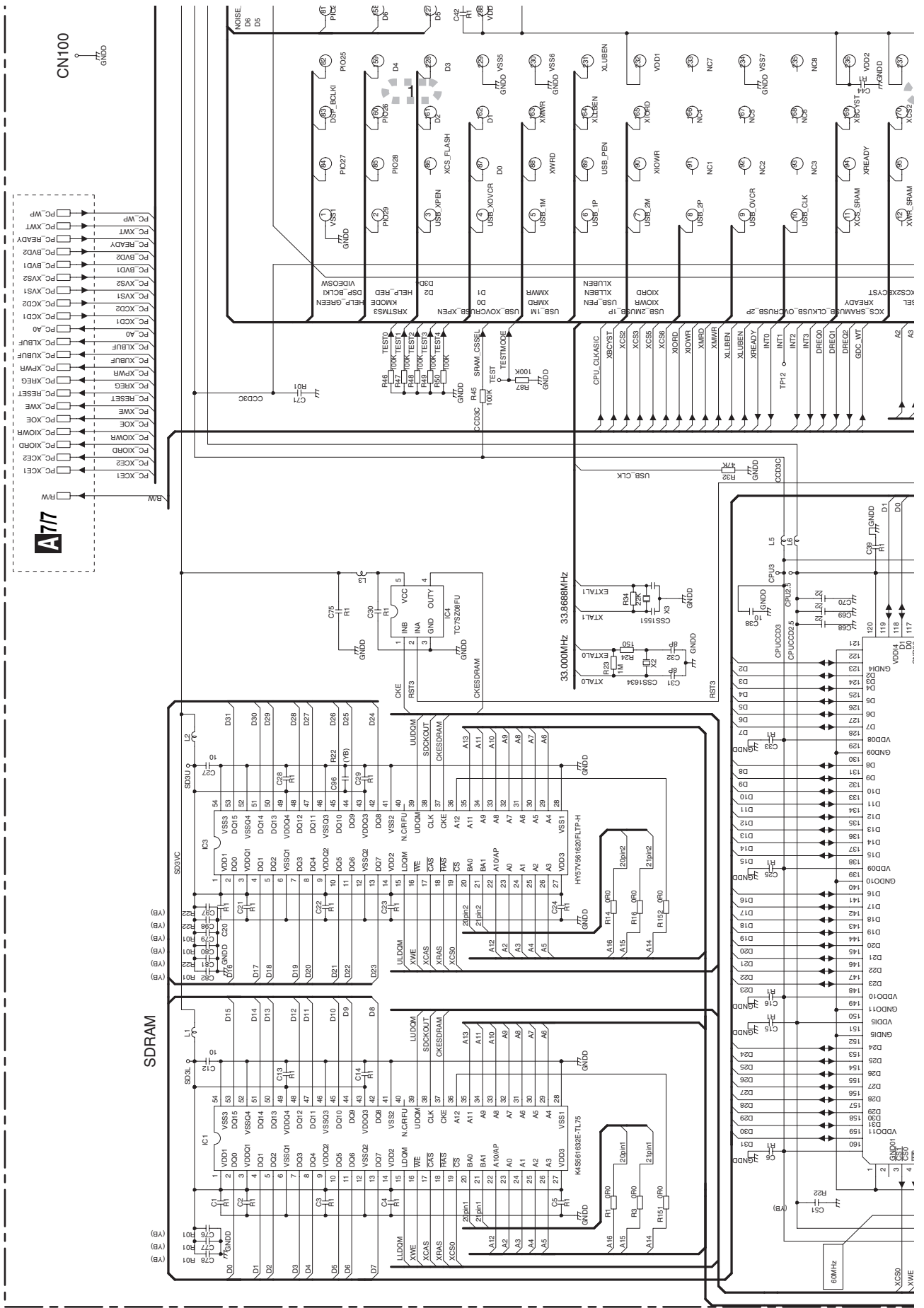
A B C D E F

1 2 3 4

A-b 4/7

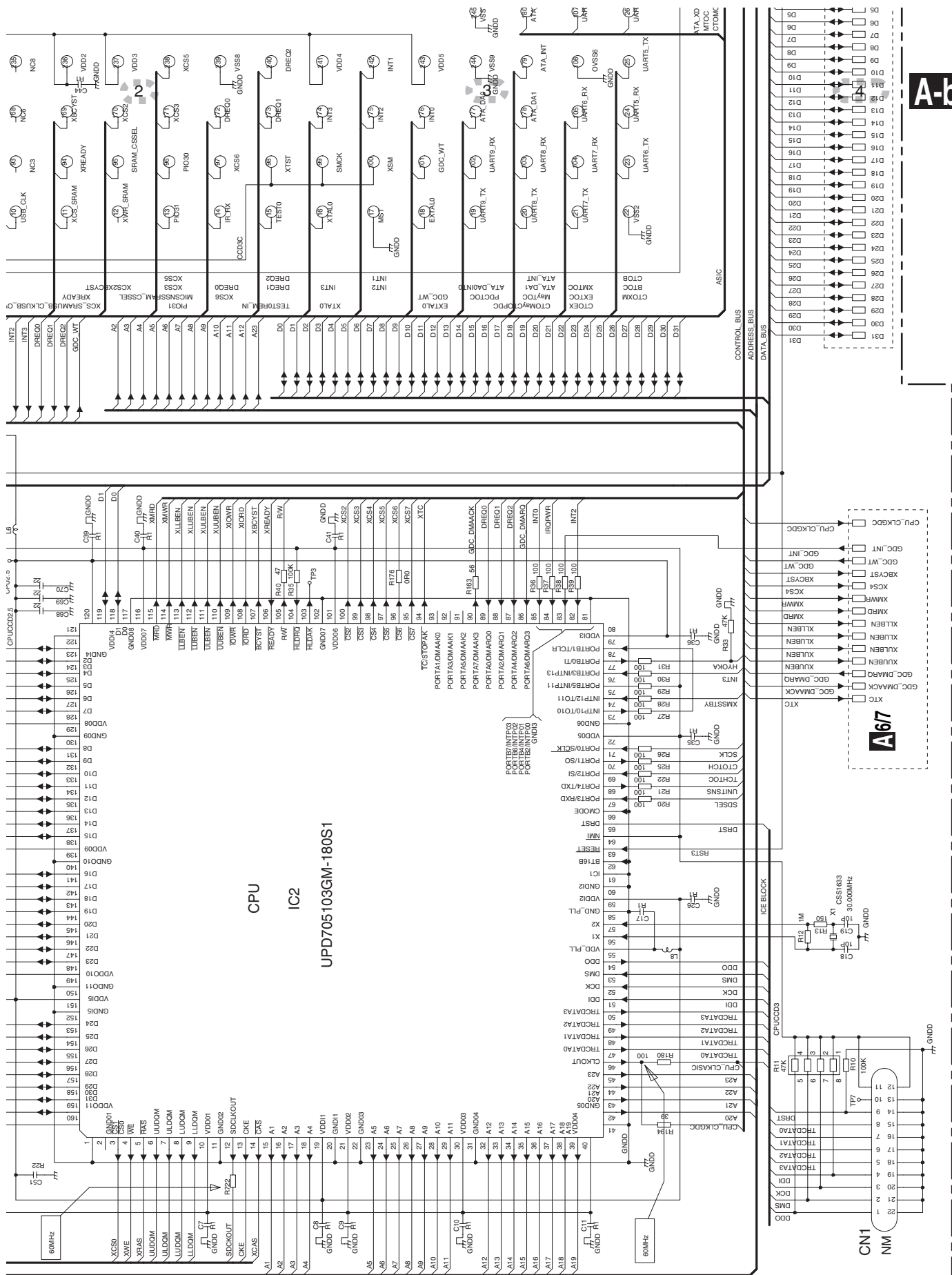
A-a A-b

A-a 4/7



A717

CN100



A-a 4/7

AVIC-N4/XU/UC

# 10.5 CC UNIT(ROM,SRAM,BUS-BUFFER)

A

B

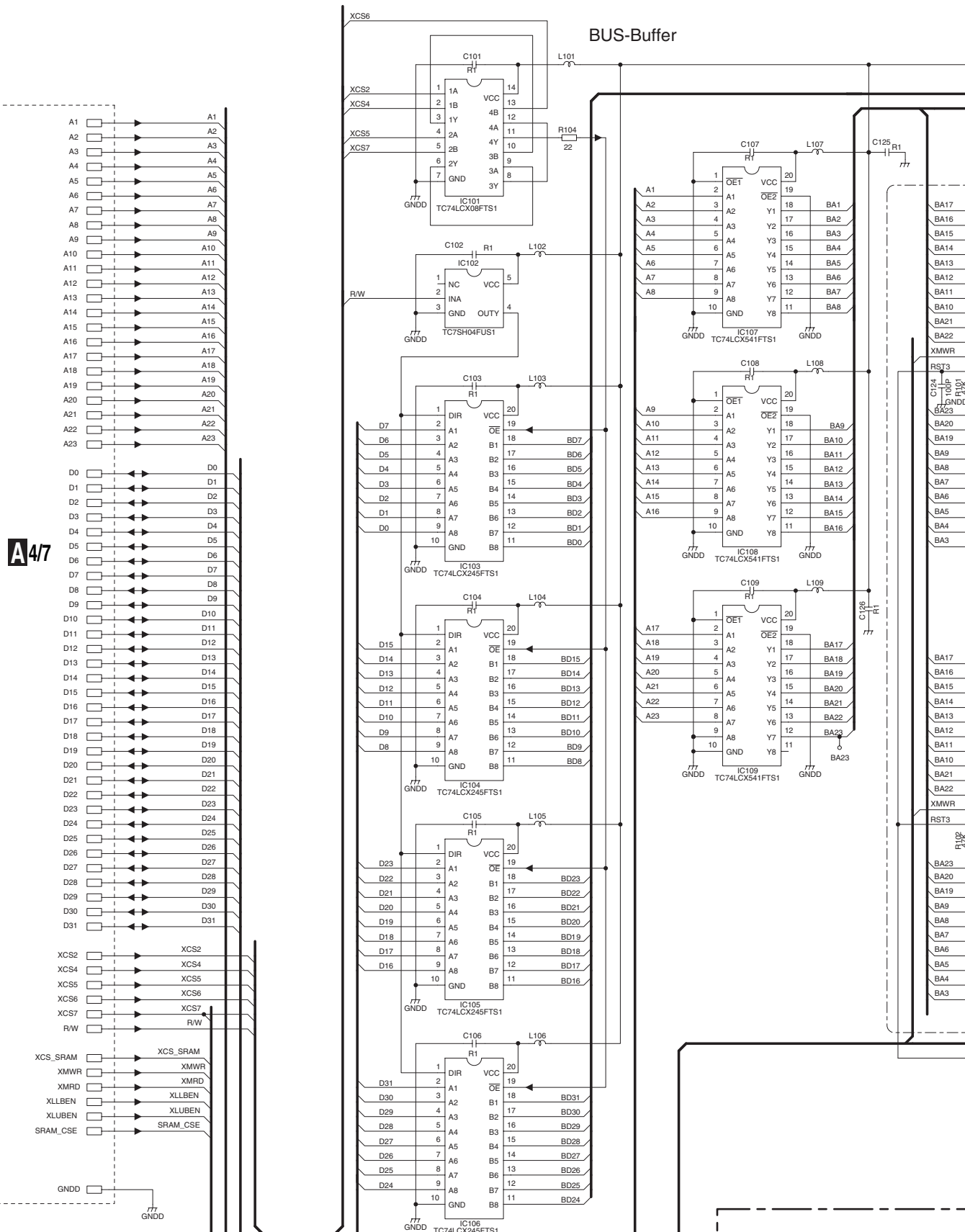
C

D

E

F

※ XCS2:SRAM  
XCS4:GDC  
XCS5:PC-CARD  
XCS6:DSP  
XCS7:FLASH



## A

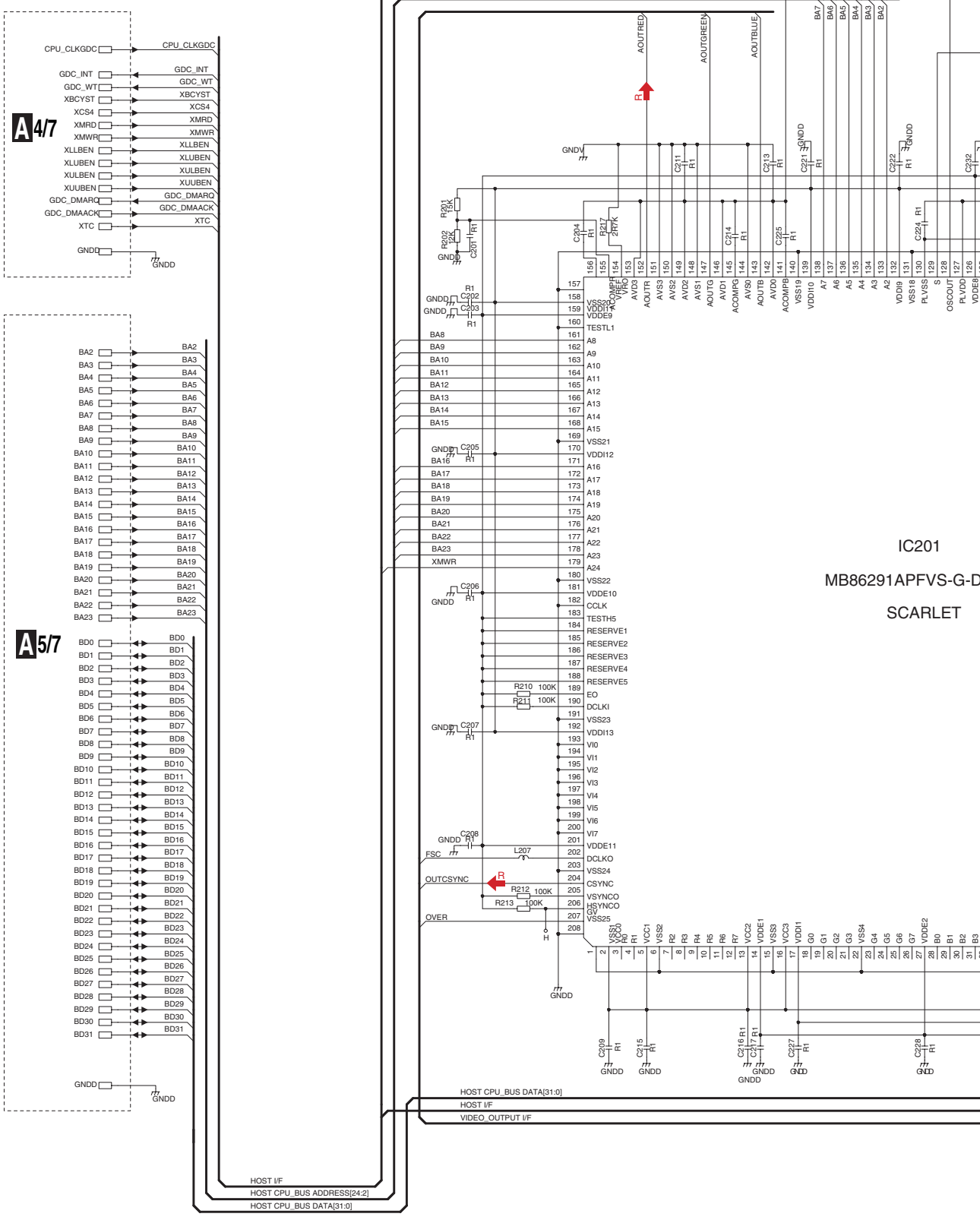




# 10.6 CC UNIT(GRAPHIC)

A  
B  
C  
D  
E  
F

**R** RGB Signal  
**S** SYNC Signal

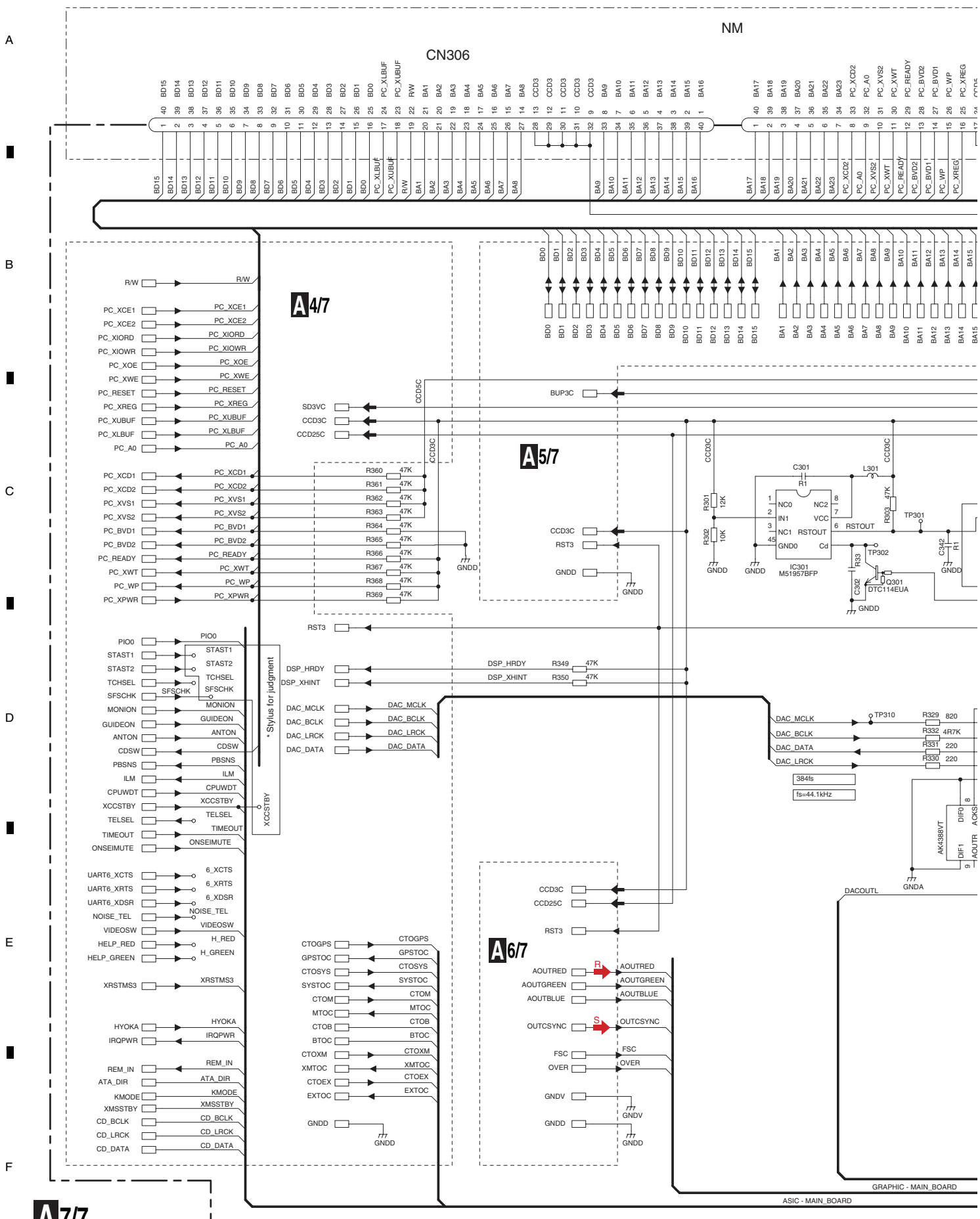


**A67**

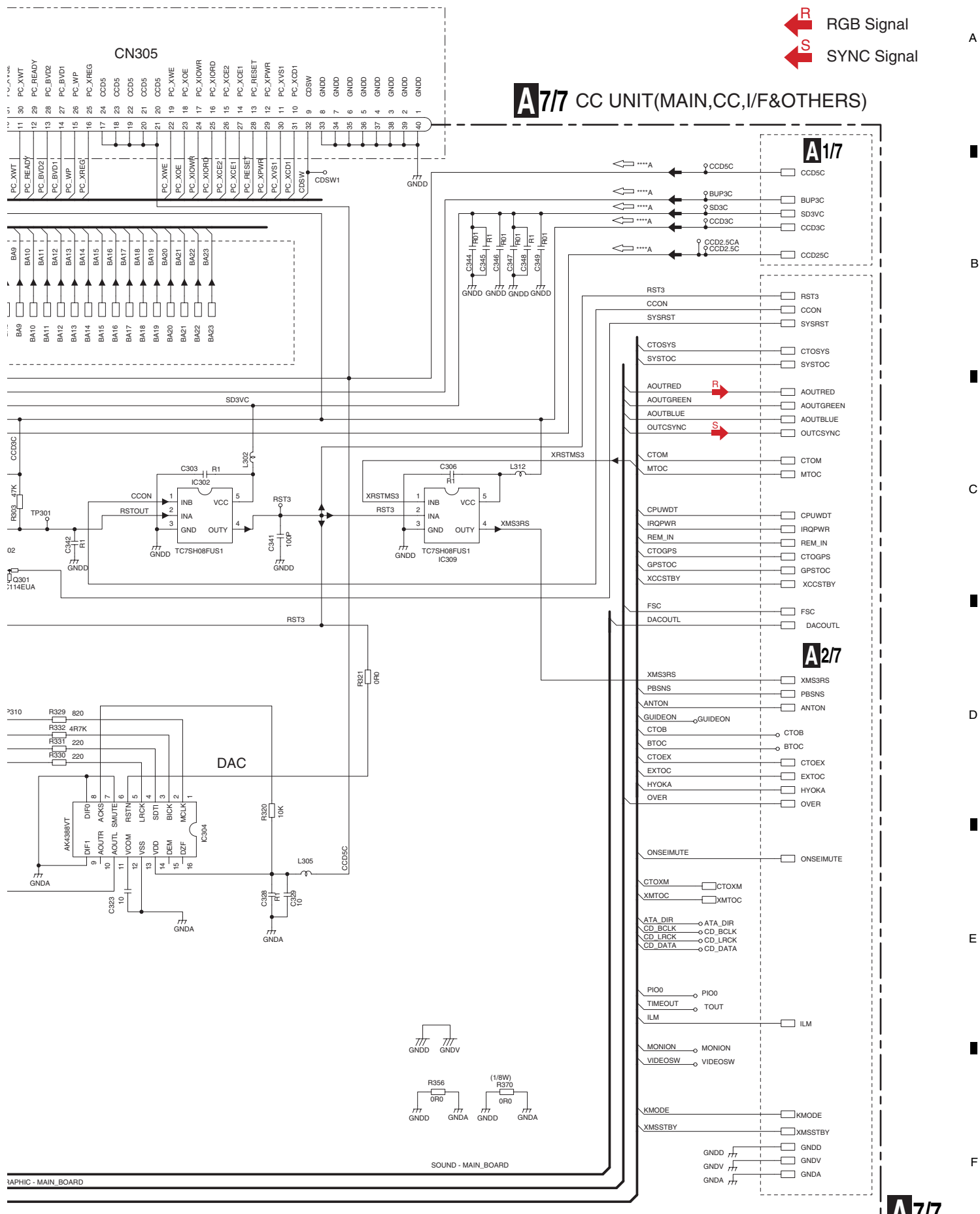




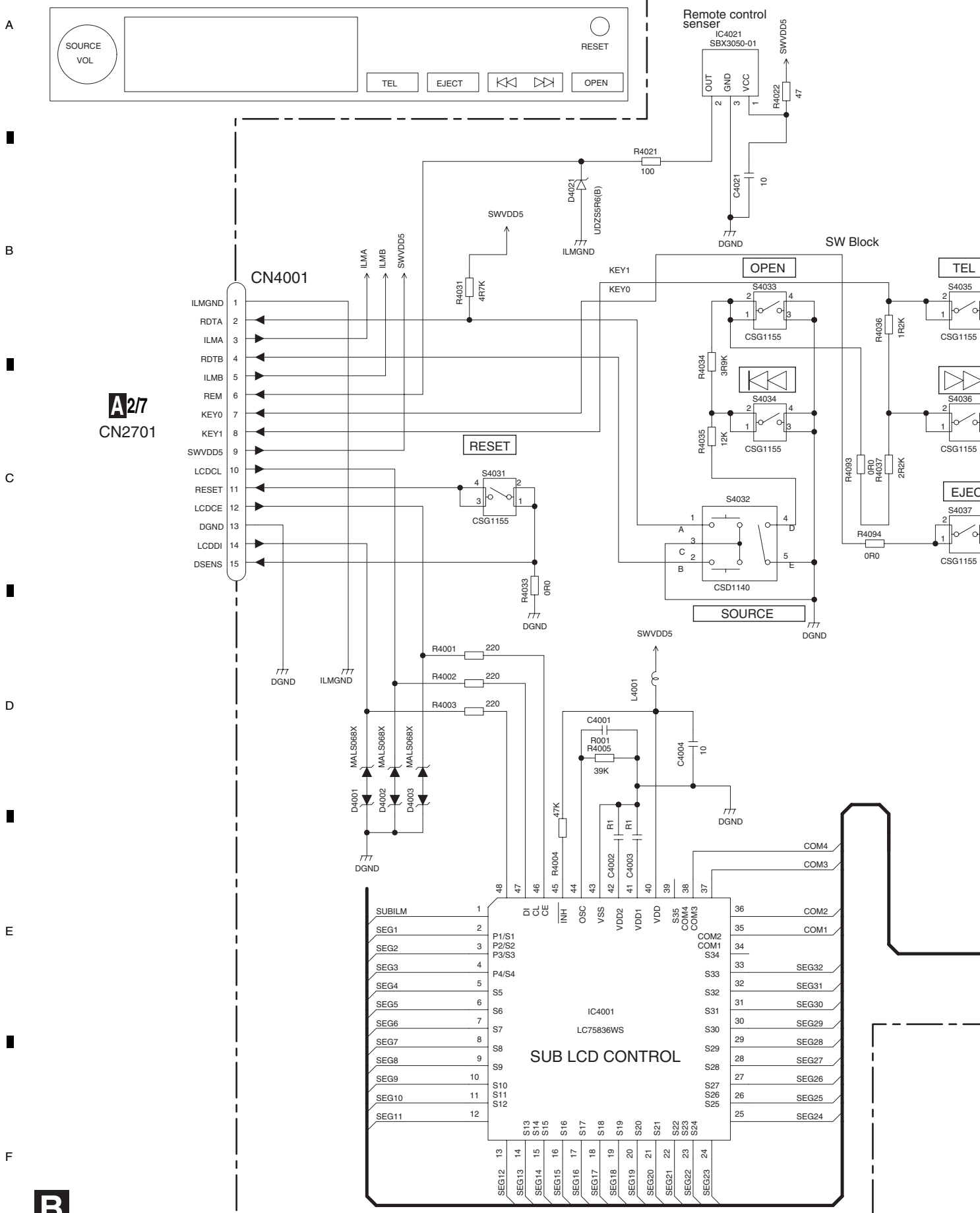
# 10.7 CC UNIT(MAIN,CC,I/F&OTHERS)



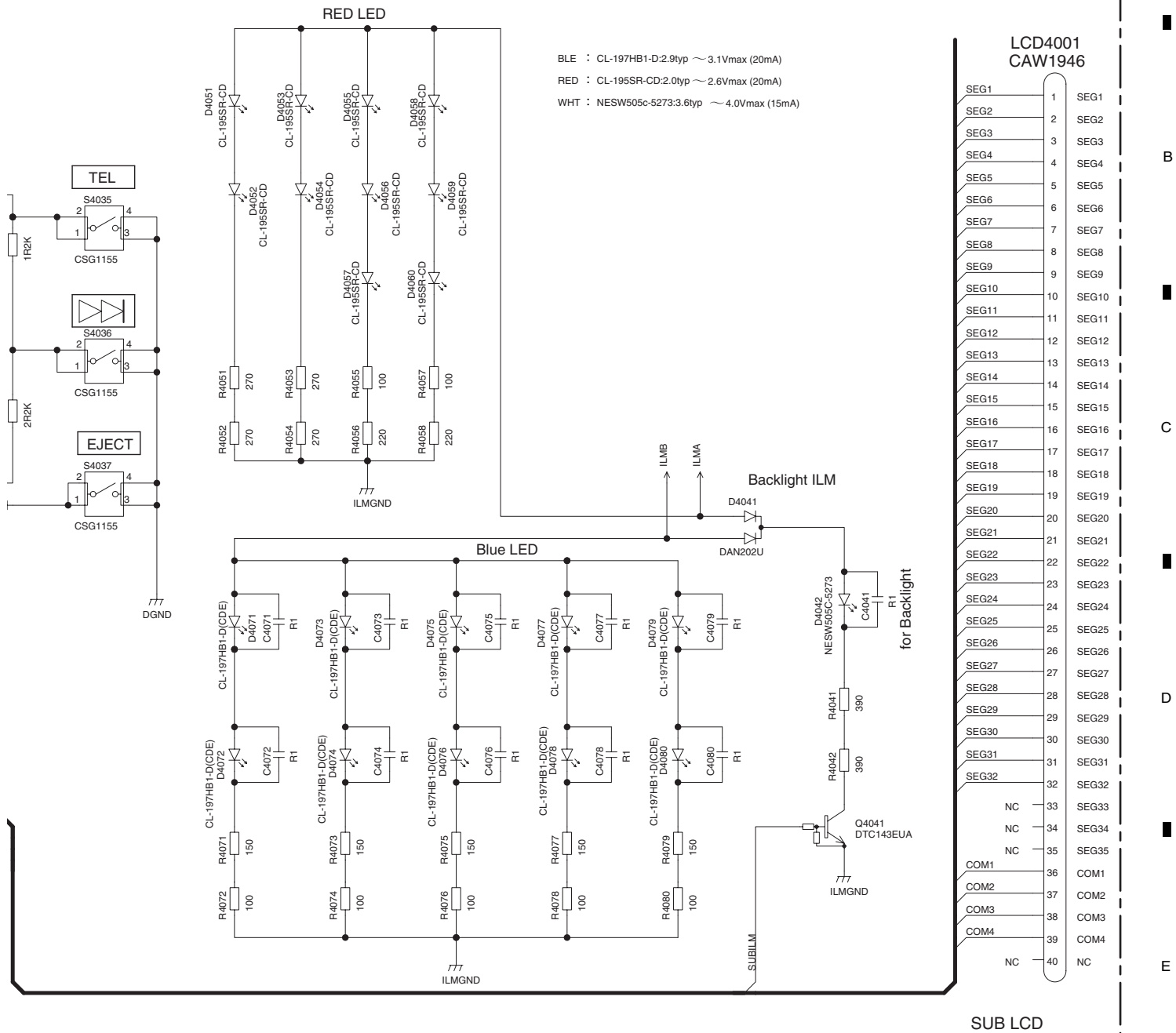
A7/7



# 10.8 KEYBOARD UNIT

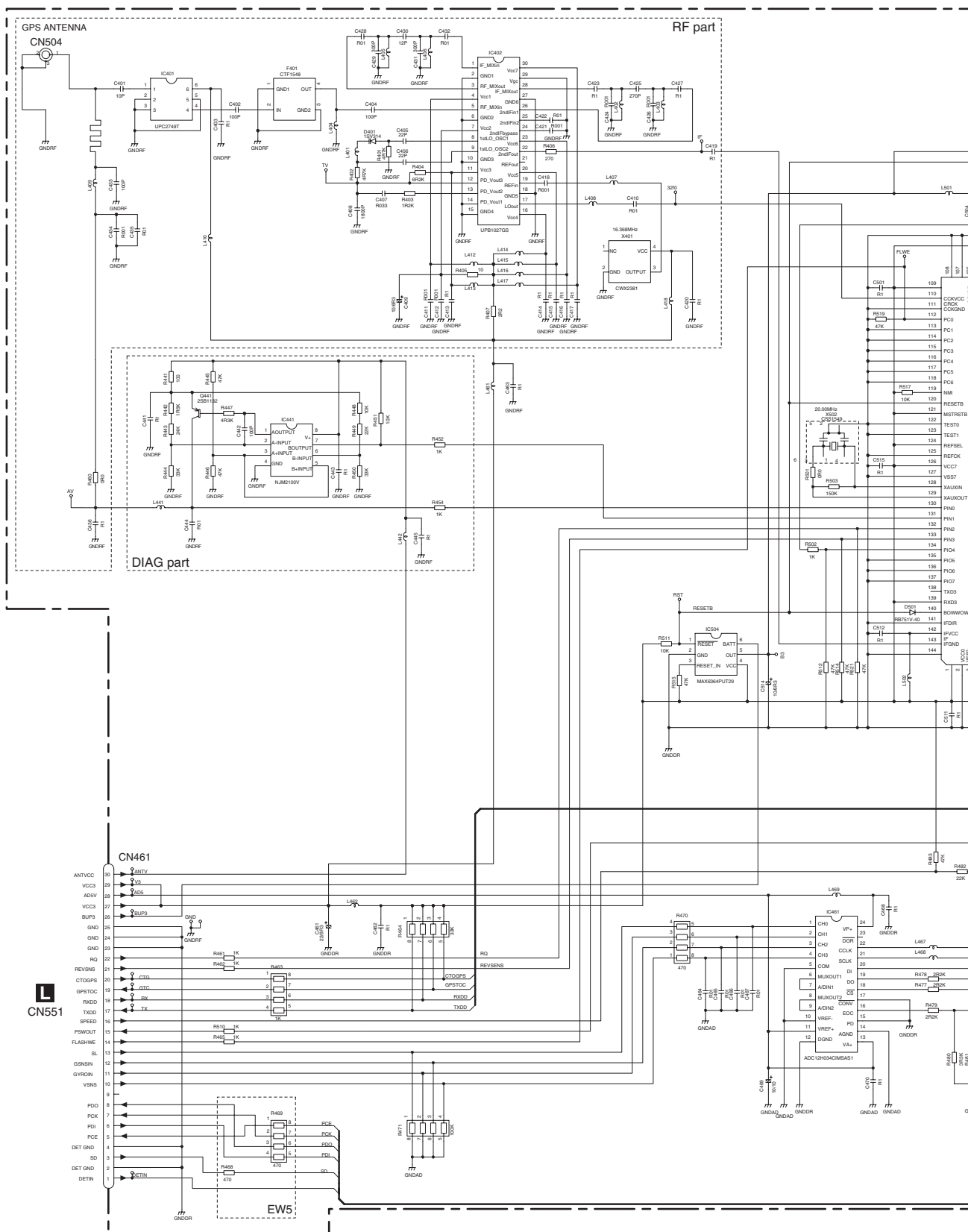


# B KEYBOARD UNIT



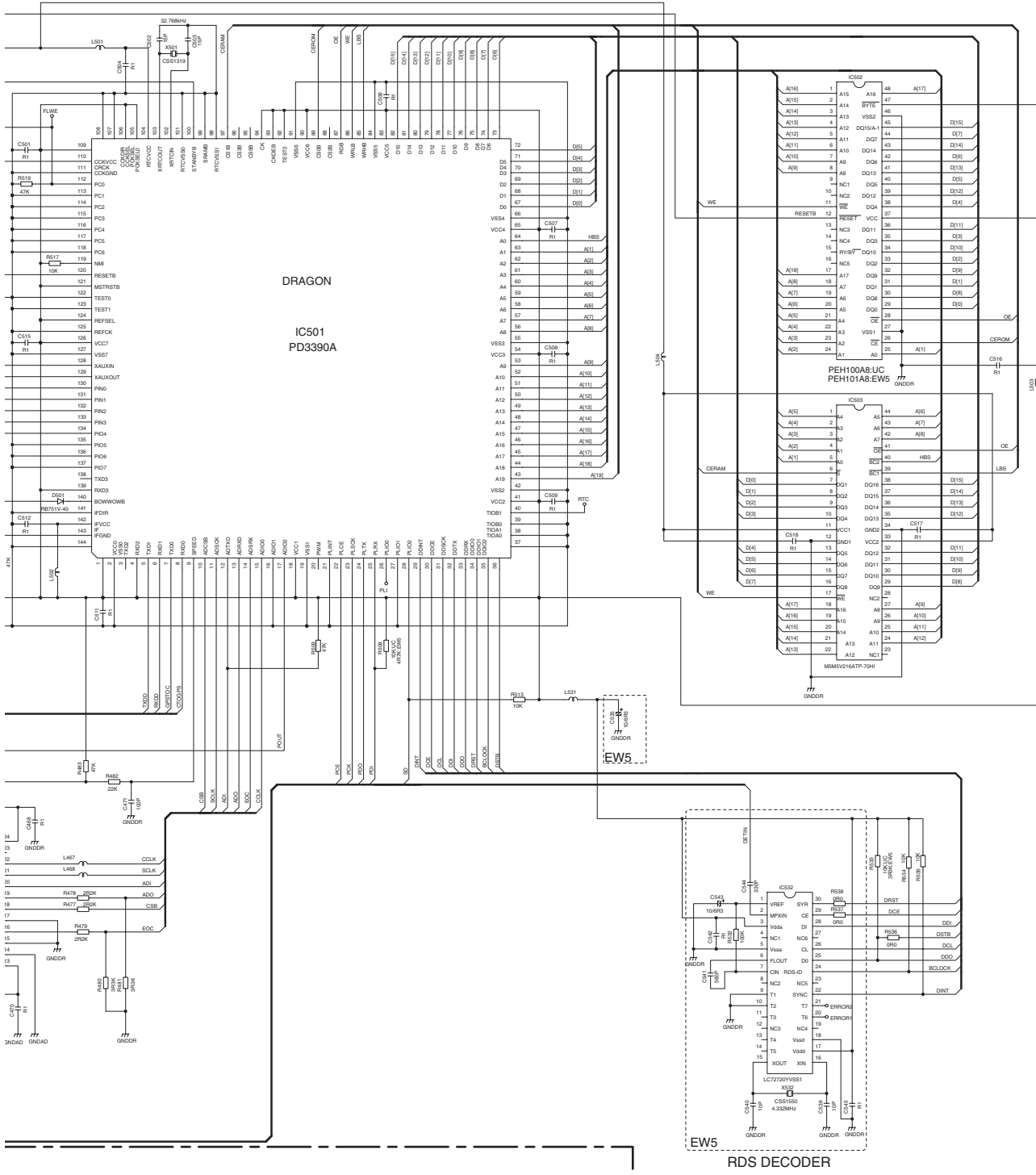
# 10.9 GPS UNIT(GUIDE PAGE)

C-a



C-b

C GPS UNIT



AVIC-N4/XU/UC

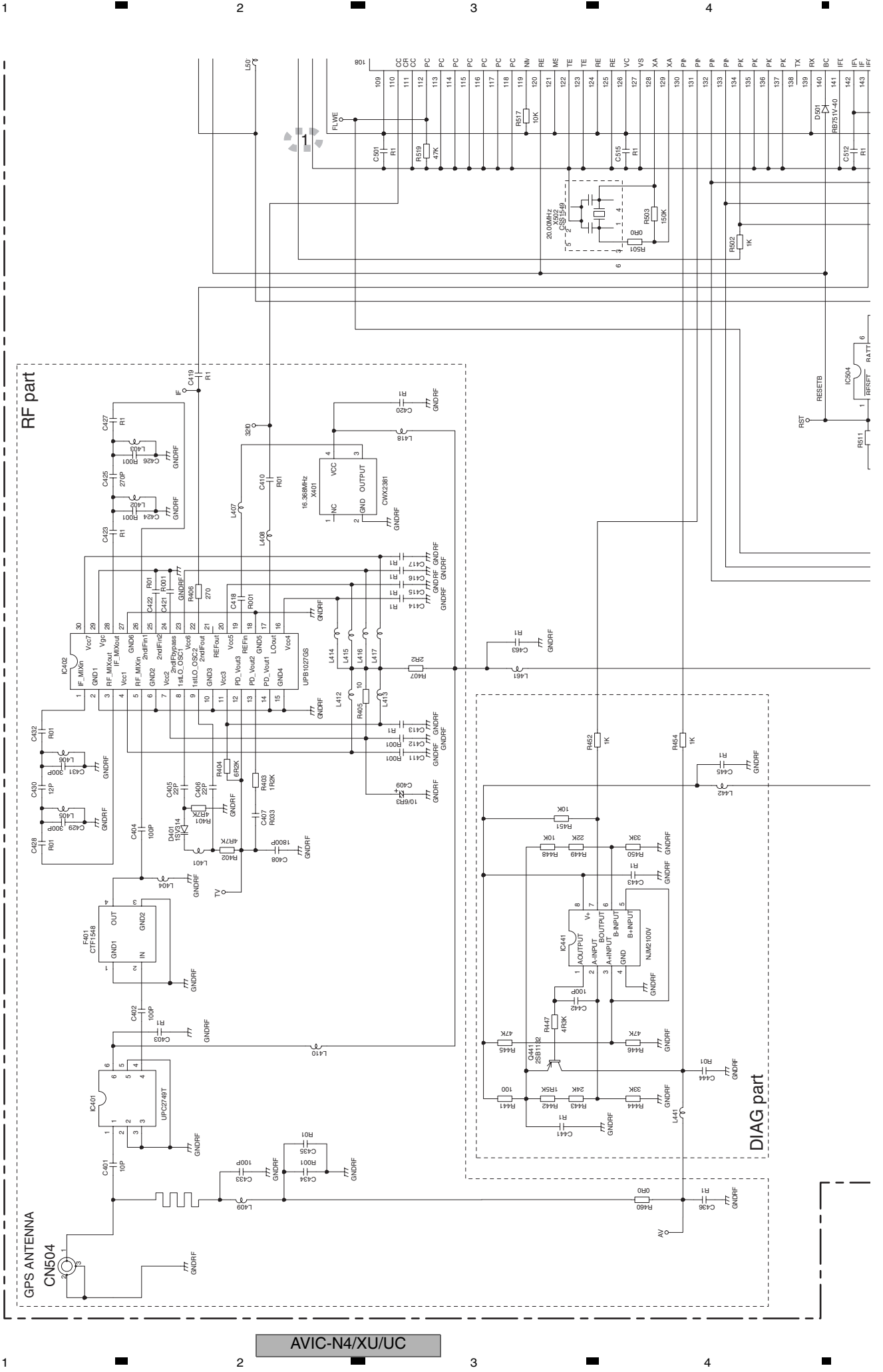
C







AVIC-N4/XU/UC





## F



A



C

□

E

1

205





A

B

C

D

E

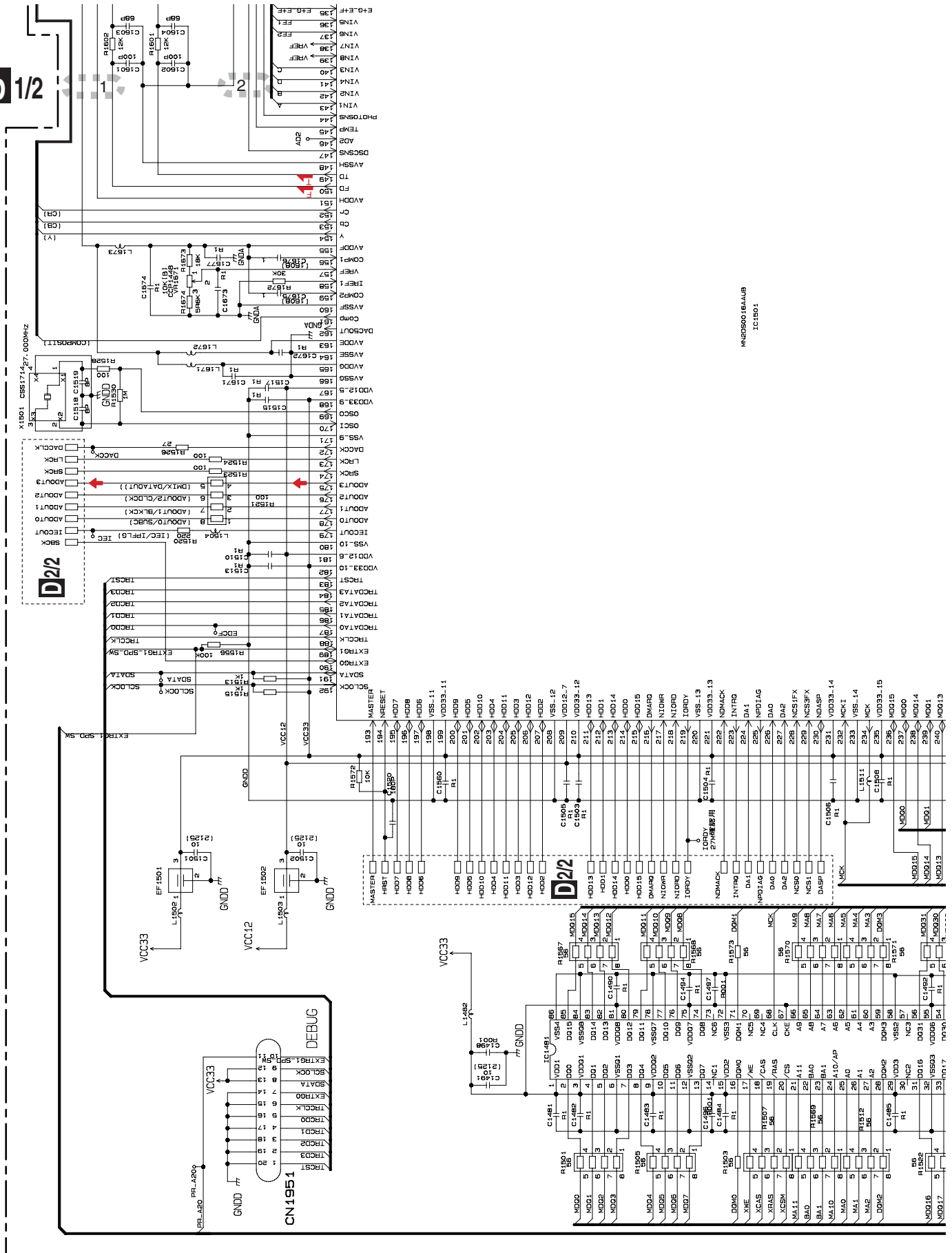
F

D-b 1/2

D-a D-b

D-a 1/2

AVIC-N4/XU/UC

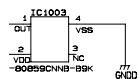
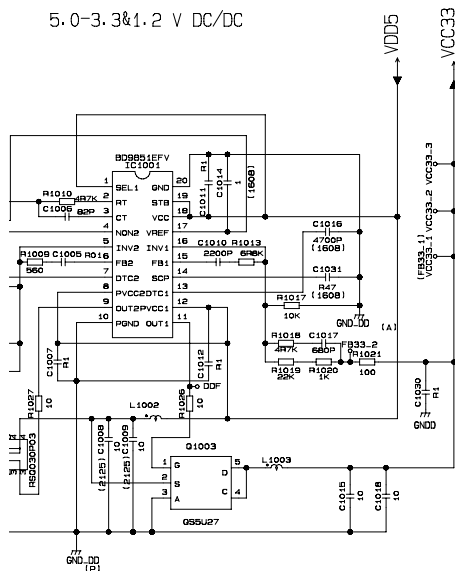




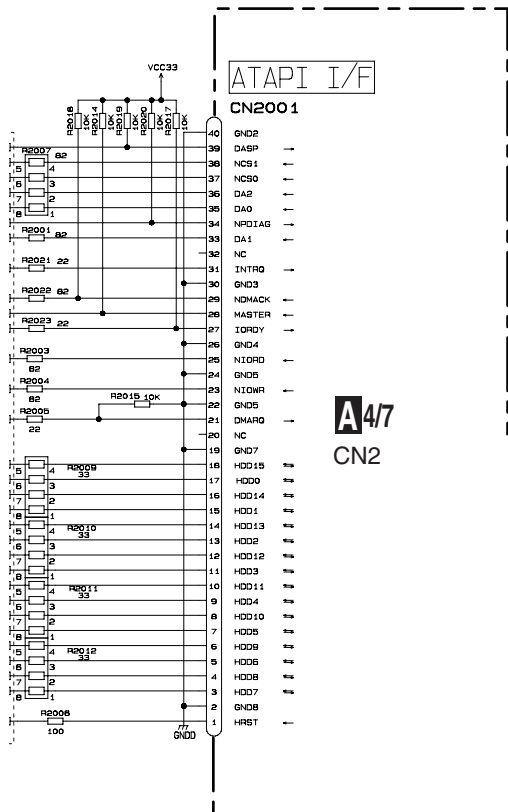


## 4





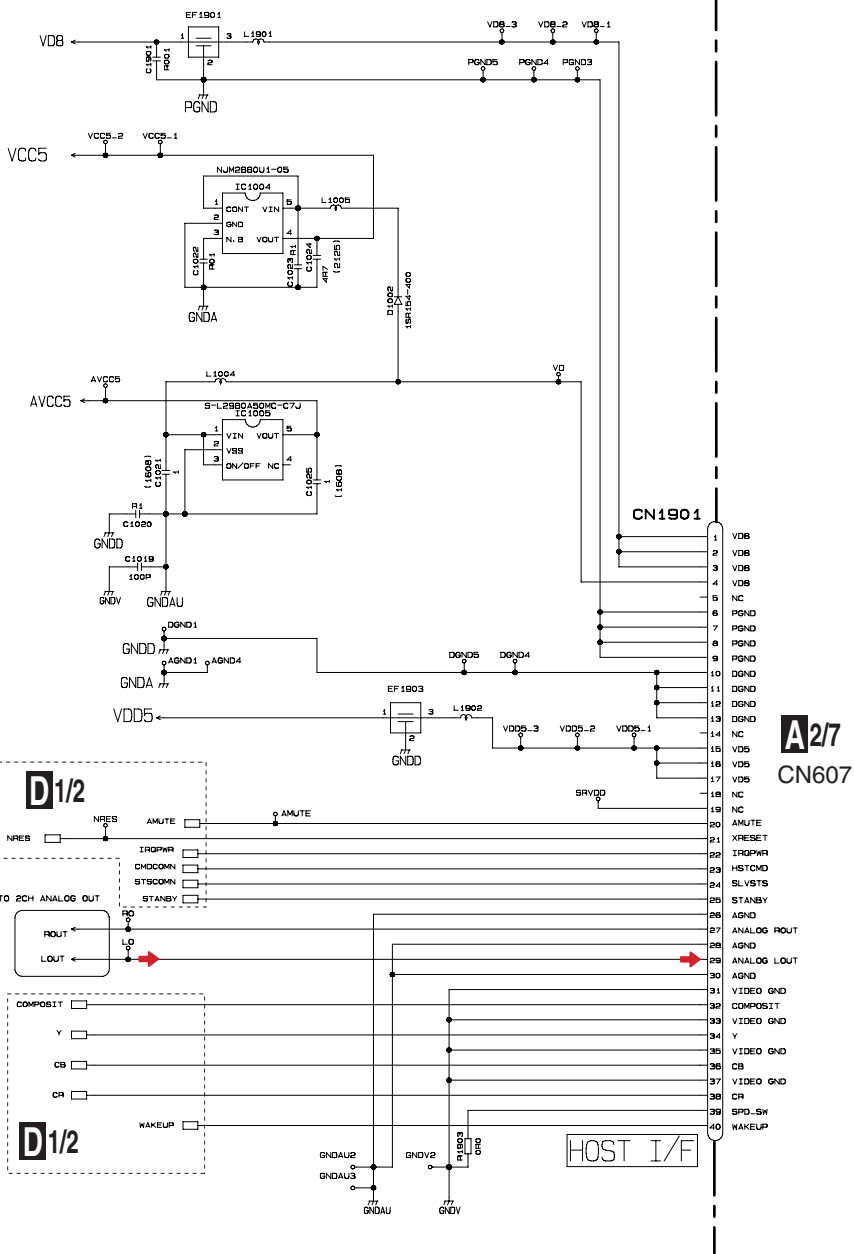
TAGE DETECT



**A**<sup>4/7</sup>  
CN2

P/S

## D2/2 DVD CORE UNIT(2/2)

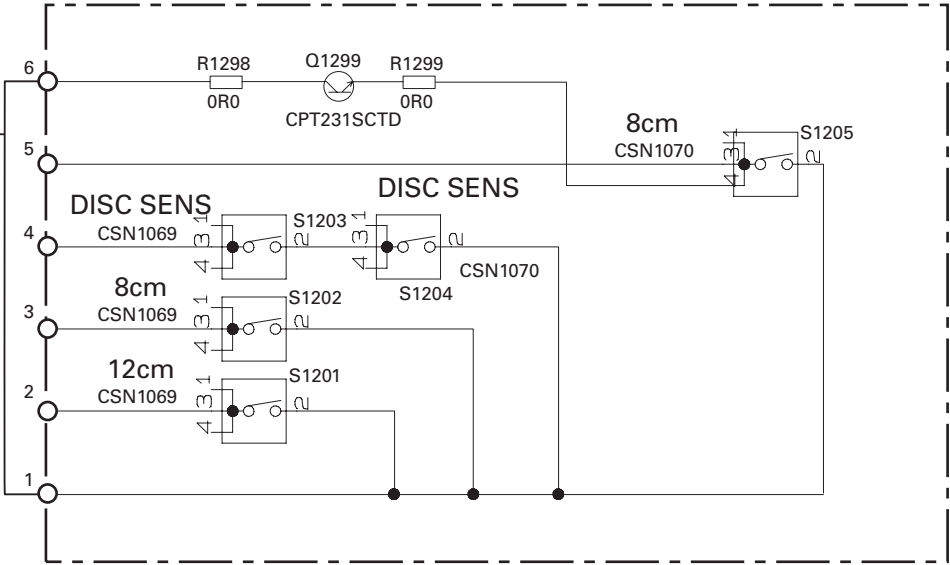


**A**<sup>2/7</sup>  
CN607

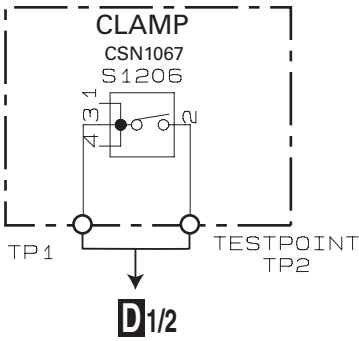
HOST I/F	
----------	--

10.12 COMPOUND UNIT(A) AND COMPOUND UNIT(B)

**E** COMPOUND UNIT(A)



**F** COMPOUND UNIT(B)



■

5

■

6

■

7

■

8

■

A

■

B

■

C

■

D

■

E

■

F

■

5

■

6

■

7

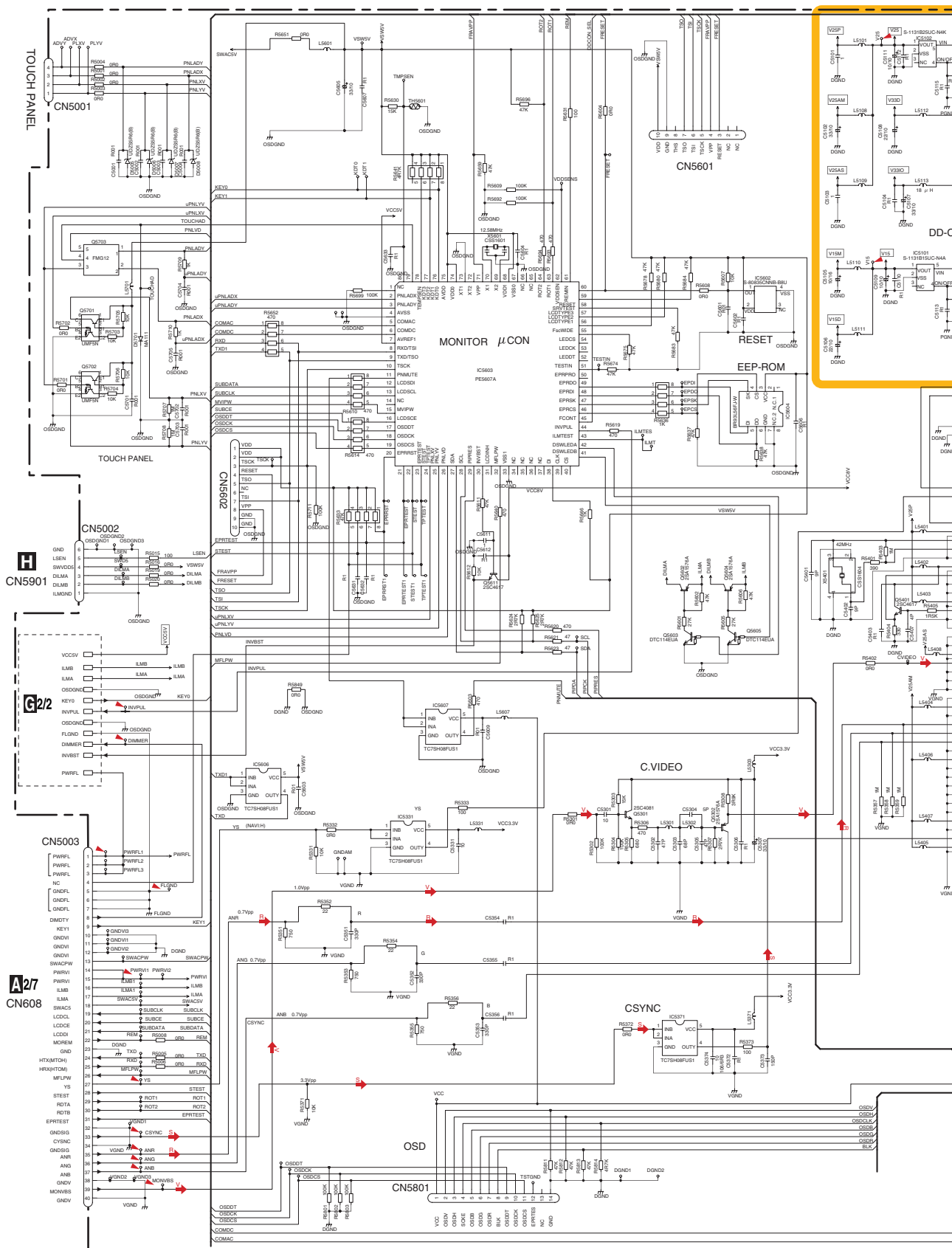
■

8

■

# 10.13 MONITOR PCB(MONITOR)(GUIDE PAGE)

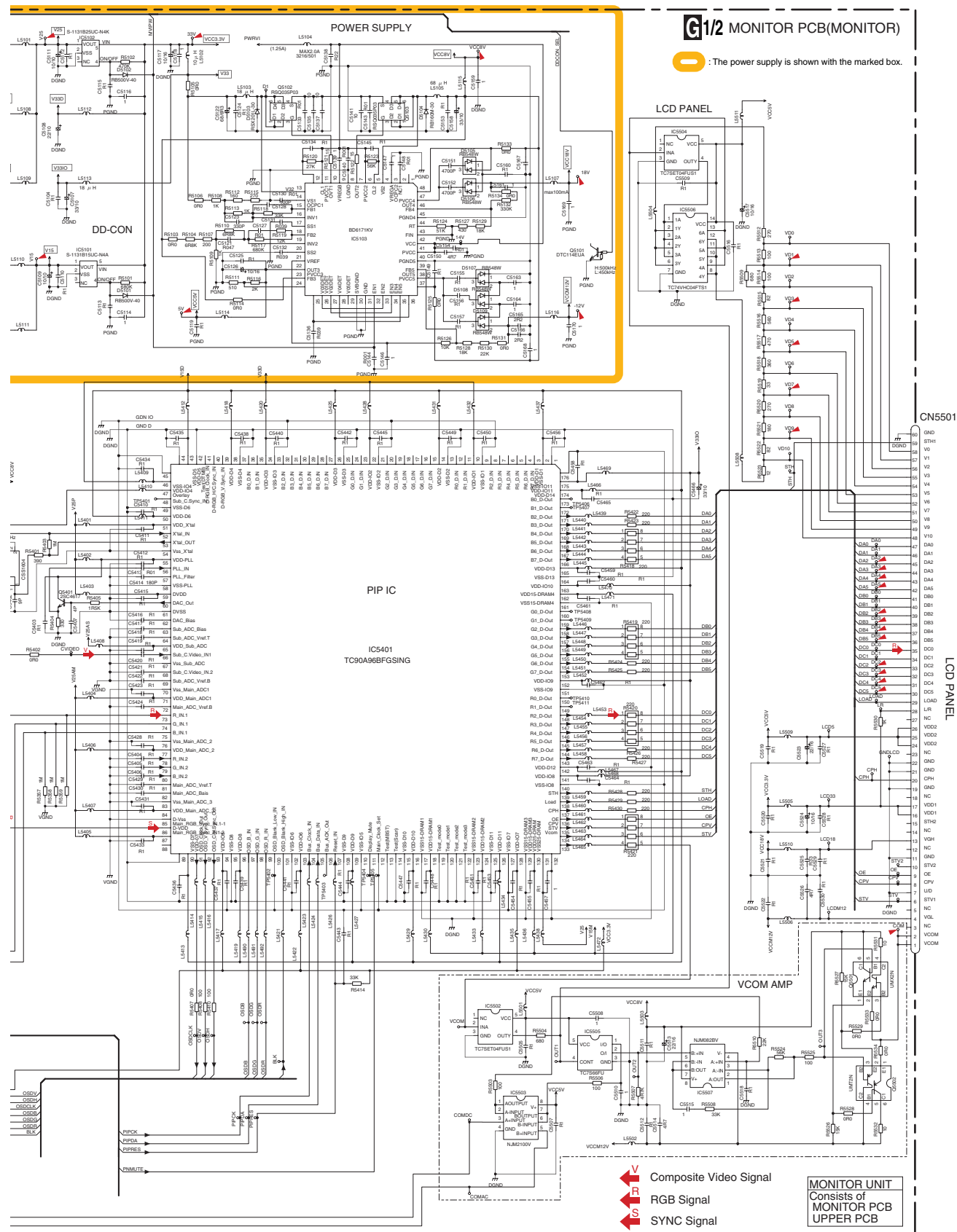
G-a 1/2

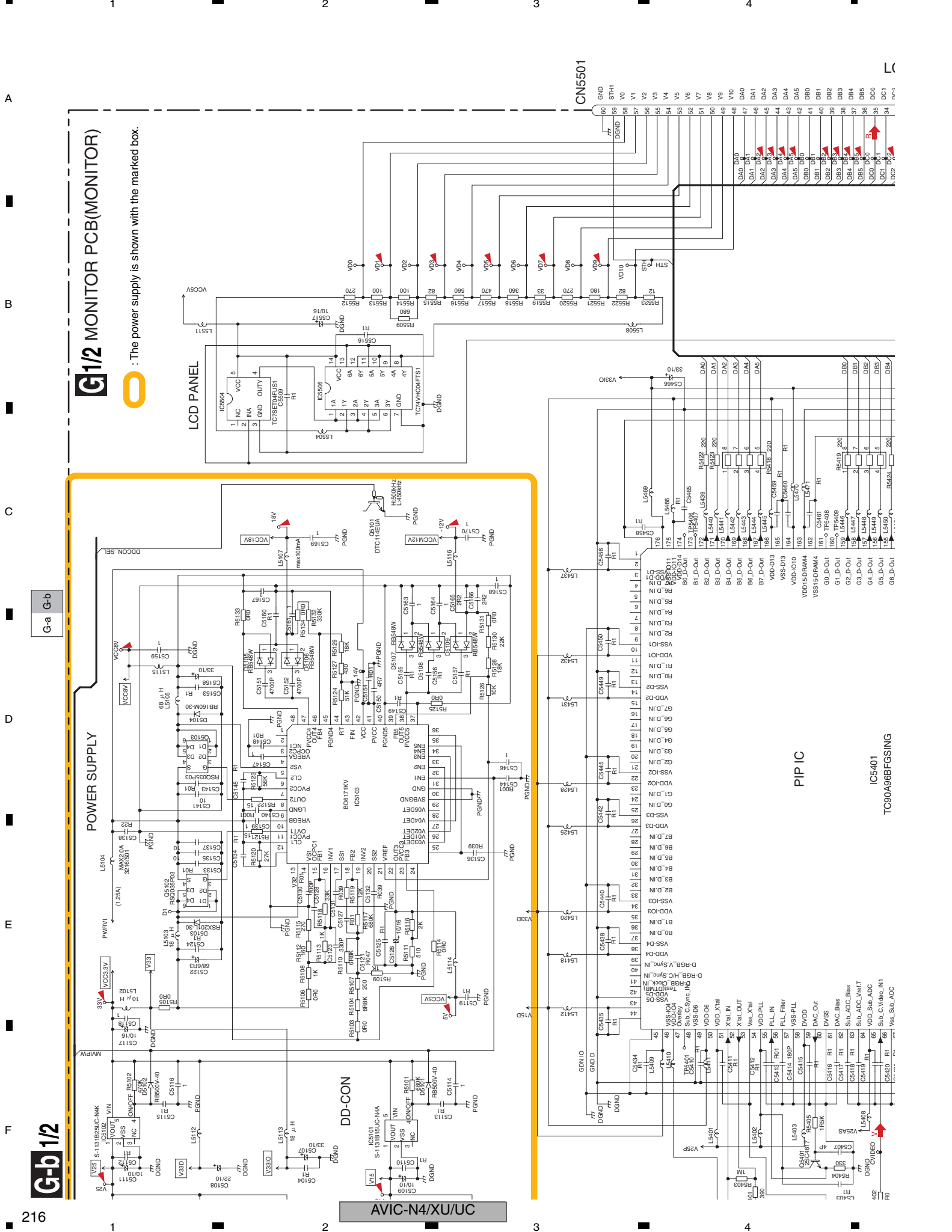


G1/2

AVIC-N4/XU/UC

G-b1/2





A B C D E F

G-b 1/2

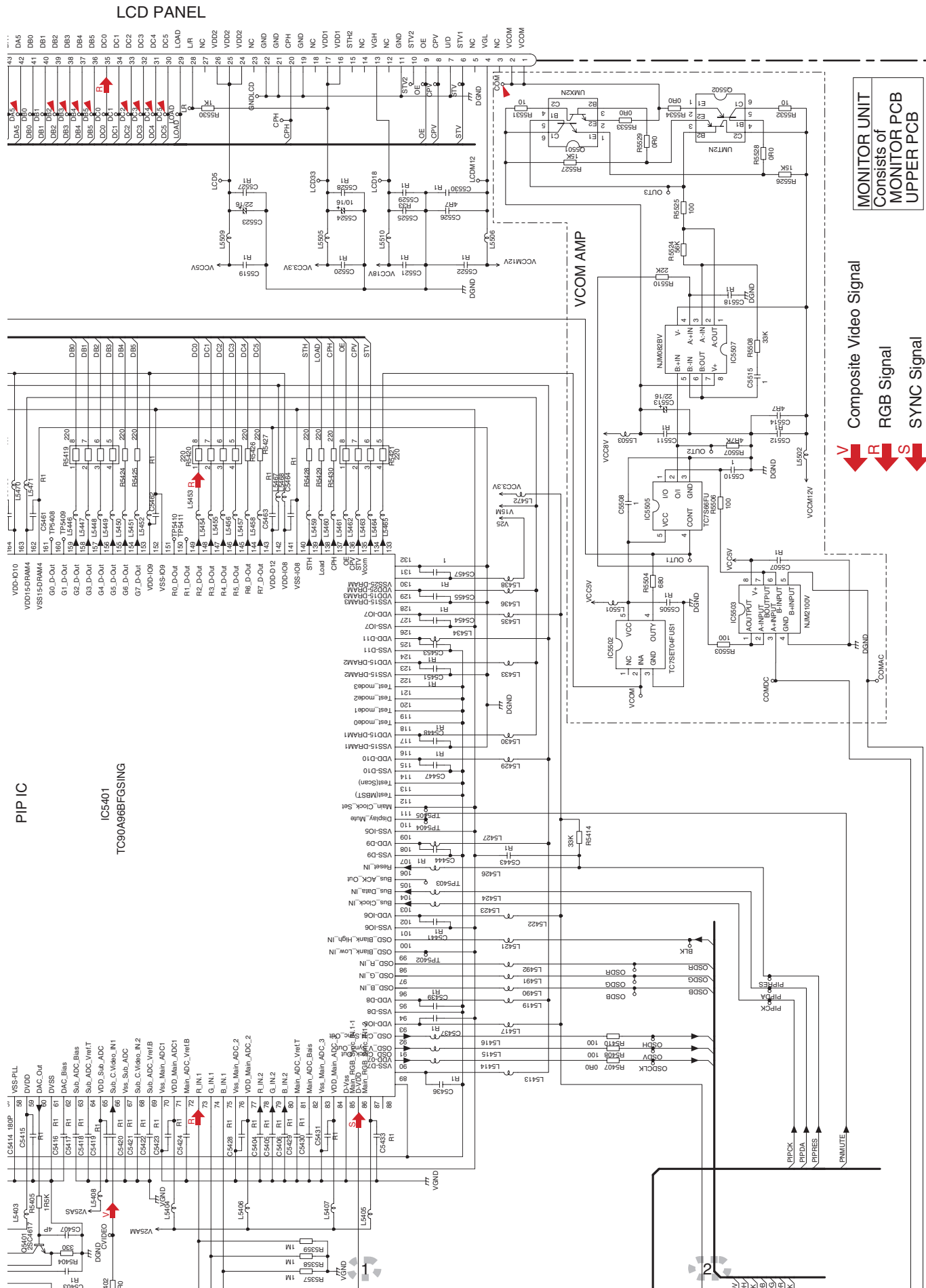
G1/2 MONITOR PCB(MONITOR)

The power supply is shown with the marked box.



G-a G-b

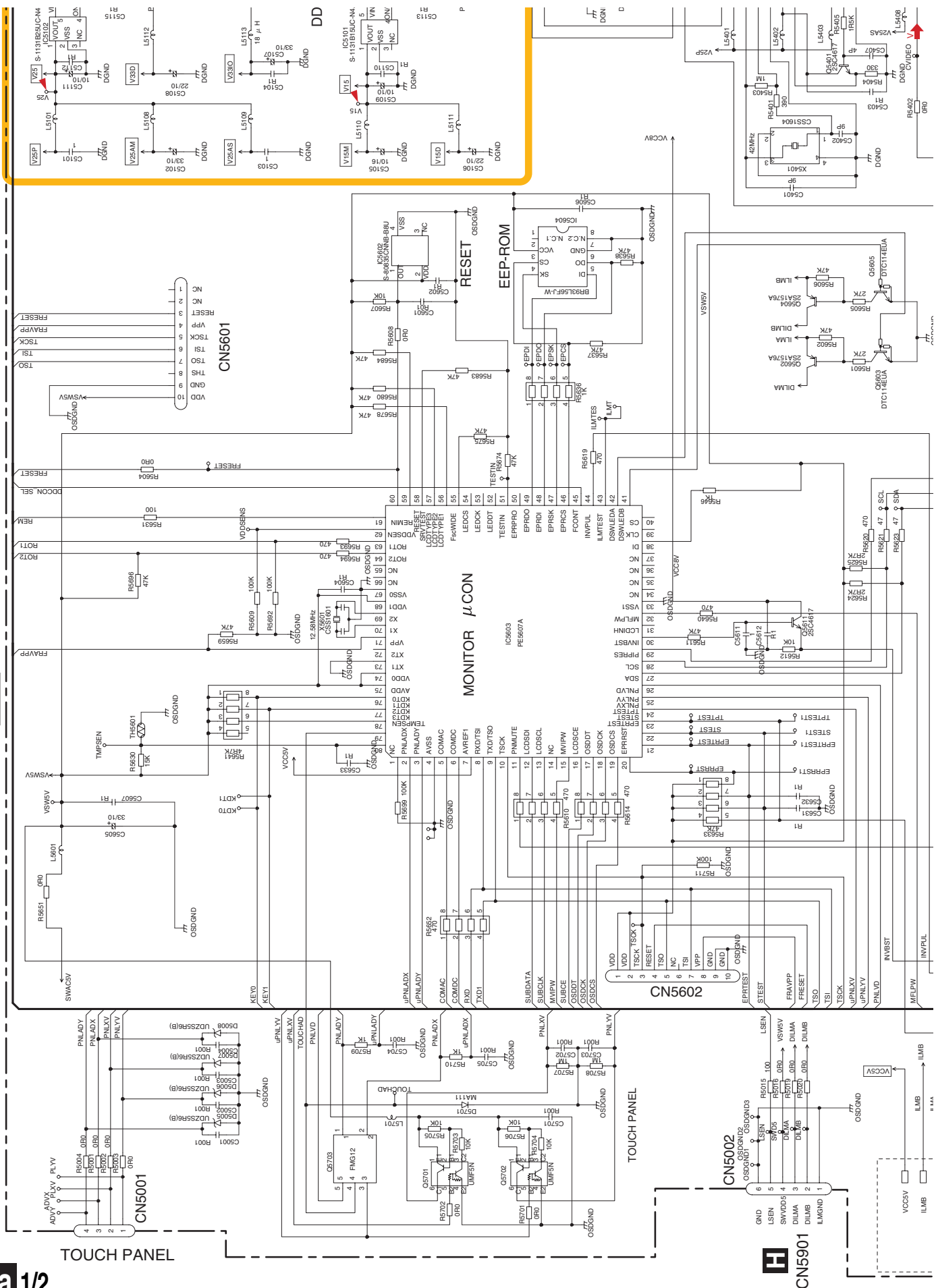




**MONITOR UNIT**  
Consists of  
**MONITOR PCB**  
**UPPER PCB**

G-a	G-b
-----	-----

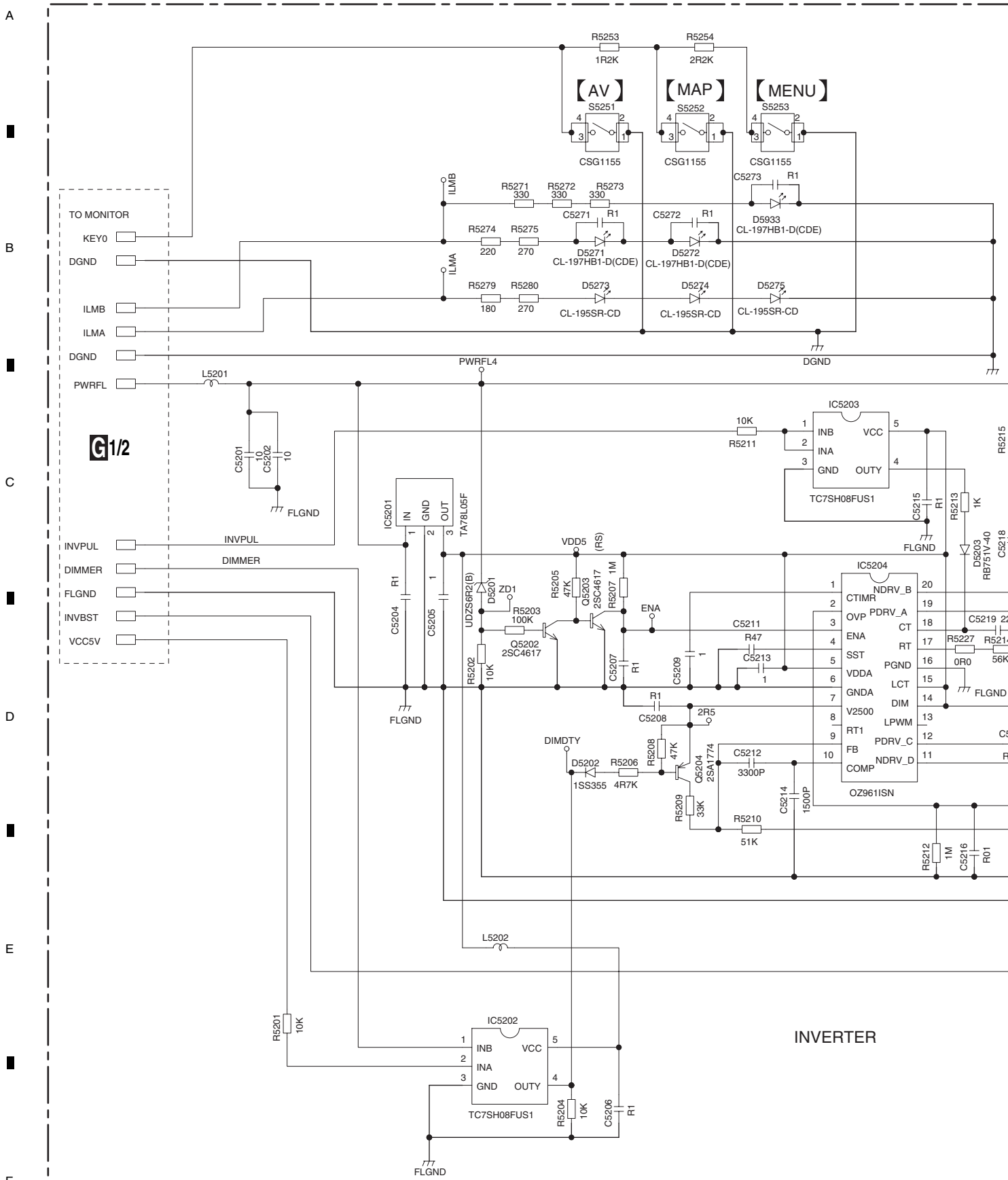
**G-b**  $\frac{1}{2}$





219

# 10.14 MONITOR PCB(INVERTER)



G2/2

AVIC-N4/XU/UC

A

B

C

D

E

F



10.15 UPPER PCB

**H** UPPER PCB

**G1/2**  
CN5002

CN5901

ILMGND 6  
DILMB 5  
DILMA 4  
SWVDD5 3  
LSEN 2  
GND 1

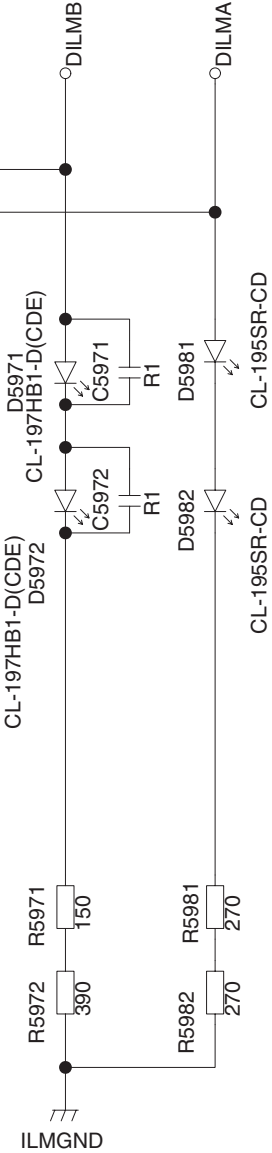
ILMGND

SWVDD5

LSEN

DGND

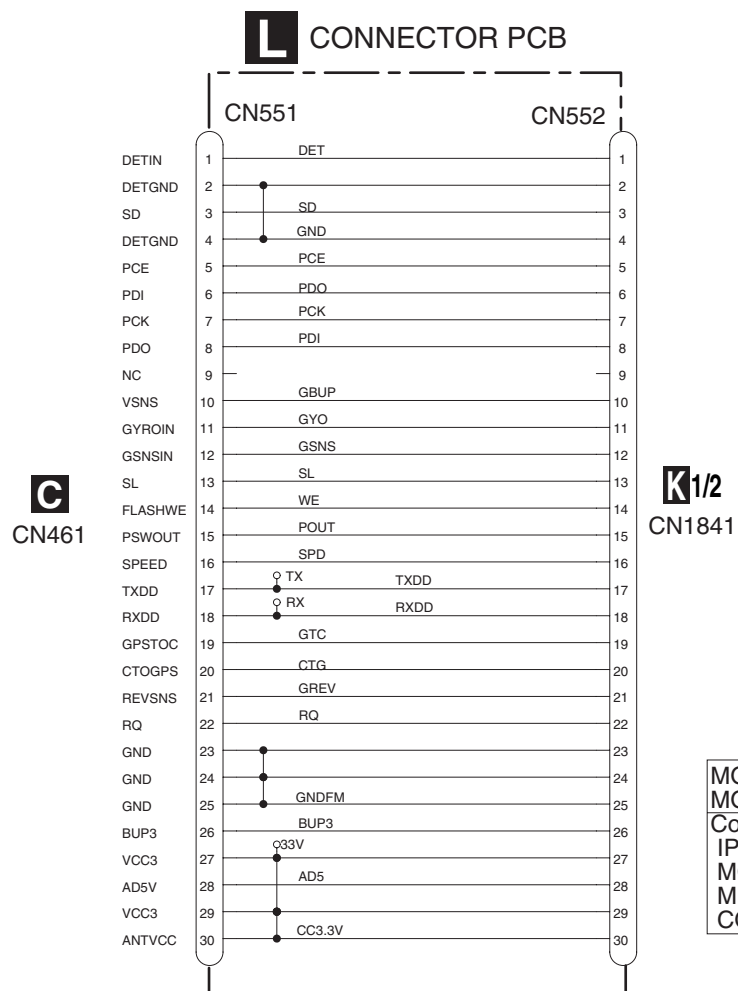
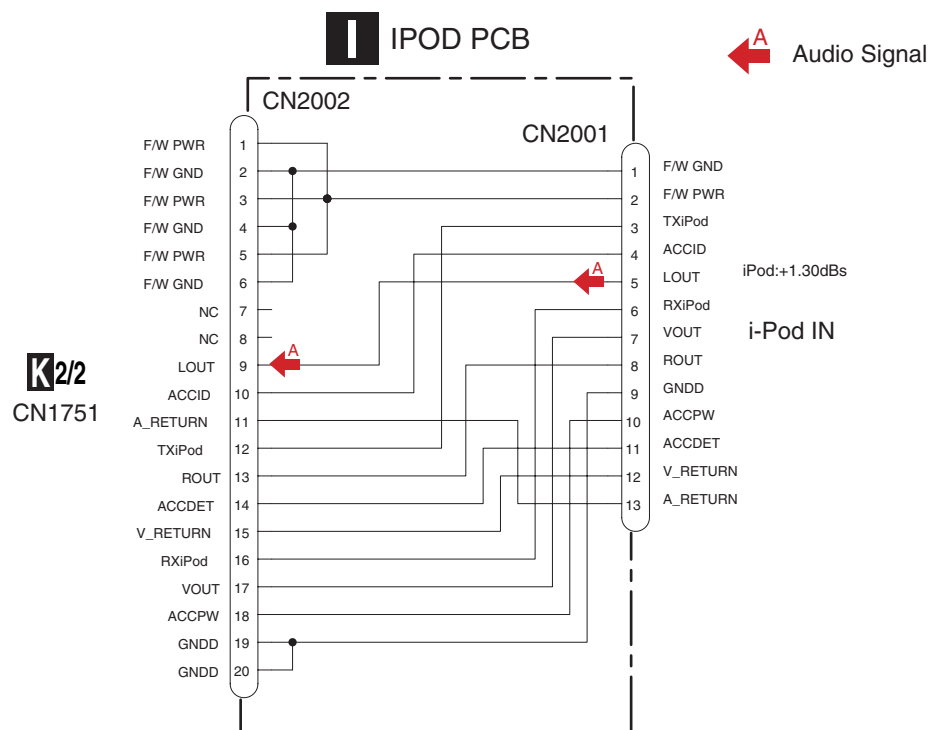
ILMGND DGND



DISC  
ON/OFF

MONITOR UNIT  
Consists of  
MONITOR PCB  
UPPER PCB

## 10.16 IPOD PCB AND CONNECTOR PCB



# 10.17 MEZZANINE PCB

A

B

C

D

E

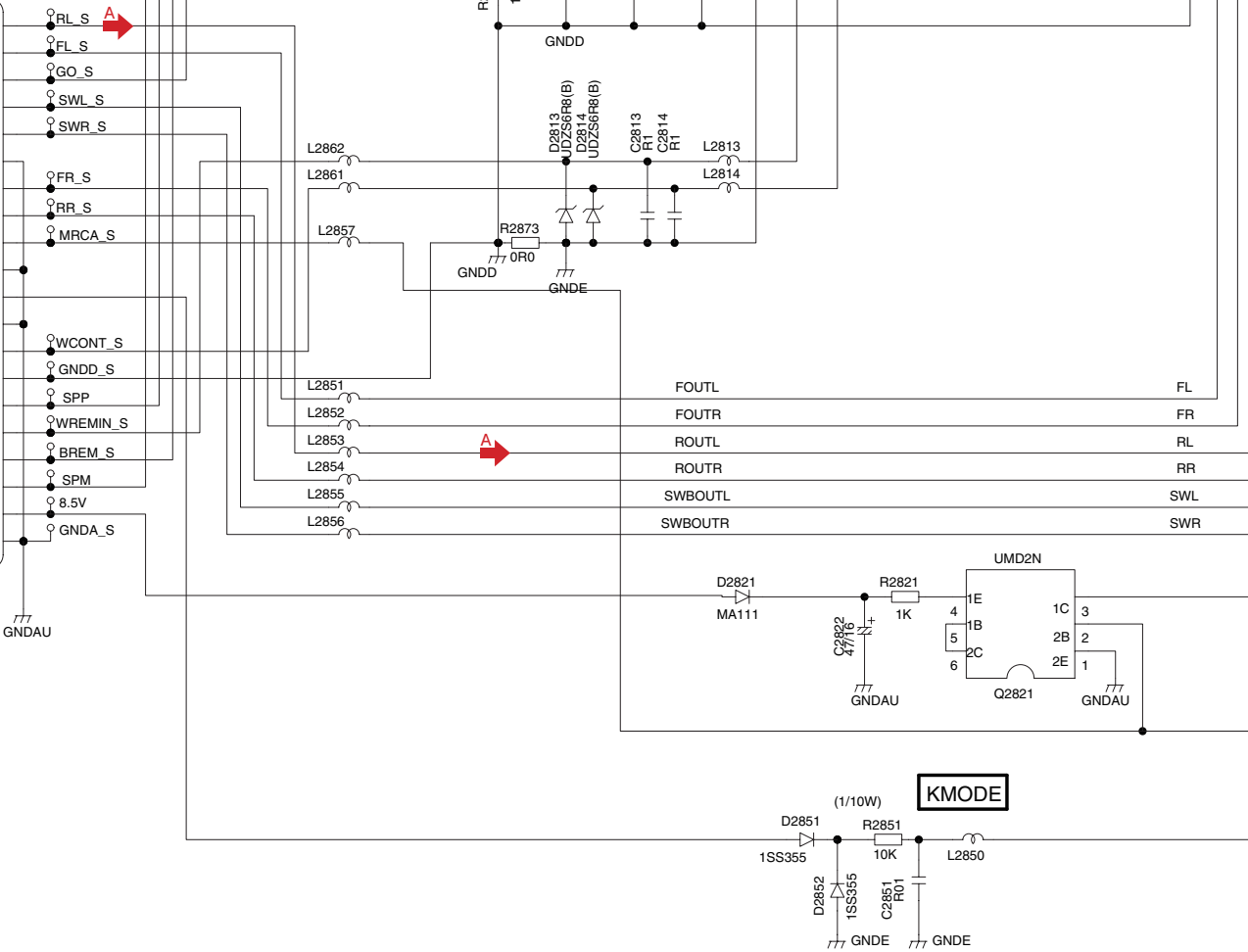
F

A27  
CN691

Audio Signal

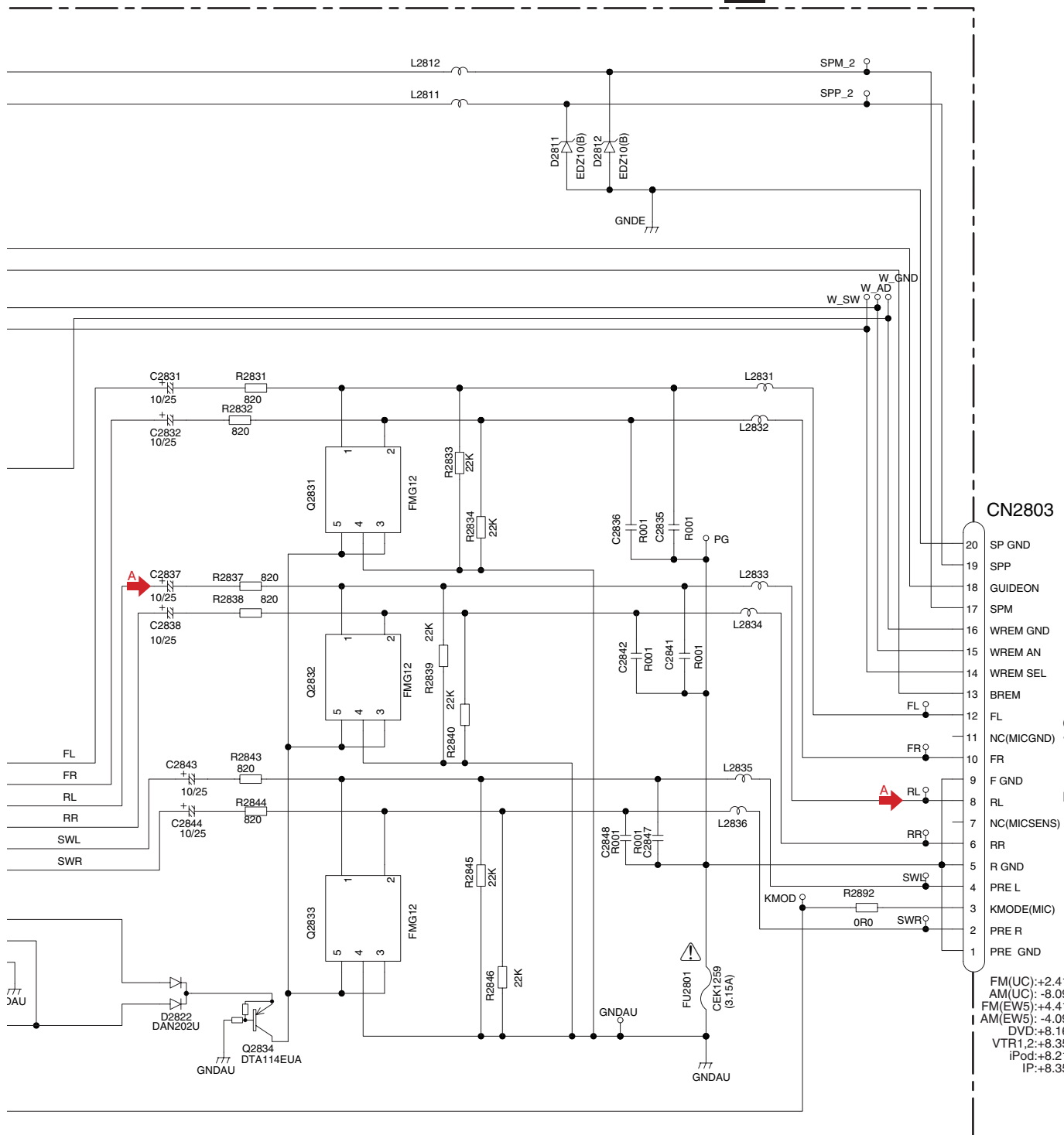
CN2801

RL 20  
FL 19  
GO\_S 18  
MUTEGU 17  
SWL 16  
SWR 15  
GND\_A 14  
FR 13  
RR 12  
MUTERCA 11  
GND\_A 10  
KMODE 9  
GND\_A 8  
WCONT 7  
WCONT\_S 6  
GND\_D 5  
ONSP+ 4  
WREMIN 3  
WREMIN\_S 2  
B.REMOTE 1  
ONSP- 0  
8.5V 0  
GND\_A 0





# J MEZZANINE PCB



External Output

CN2803

- 20 SP GND
- 19 SPP
- 18 GUIDOEN
- 17 SPM
- 16 WREM GND
- 15 WREM AN
- 14 WREM SEL
- 13 BREM
- 12 FL
- 11 FR
- 10 NC(MICGND)
- 9 F GND
- 8 RL
- 7 NC(MICSNS)
- 6 RR
- 5 R GND
- 4 PRE L
- 3 KMODE(MIC)
- 2 PRE R
- 1 PRE GND

FM(UC):+2.41dBs  
AM(UC): -8.09dBs  
FM(EW5):+4.41dBs  
AM(EW5): -4.09dBs  
DVD:+8.16dBs  
VTR1,2:+8.35dBs  
IPod:+8.21dBs  
IP:+8.35dBs

MOTHER TUNER UNIT(UC)  
MOTHER UNIT(EW5)  
Consists of  
IPOD PCB  
MOTHER PCB  
MEZZANINE PCB  
CONNECTOR PCB

## 4



CN1951

4

## A



C

D

E

F

**K<sup>1/2</sup>**

**K-a 2/2**

**I**  
CN20



C

**A<sub>2</sub>**

CN7

100

100

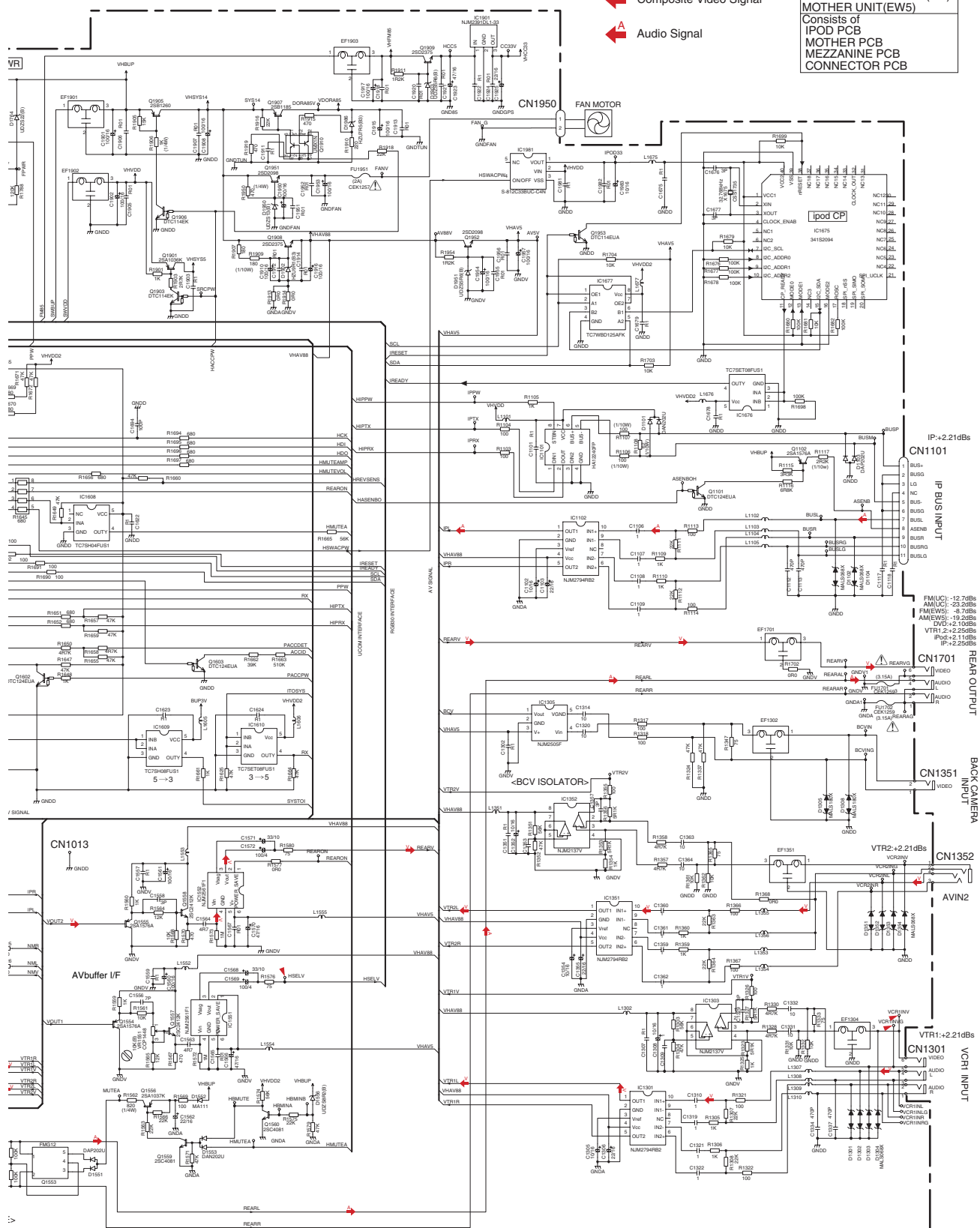
100

**K2/2**

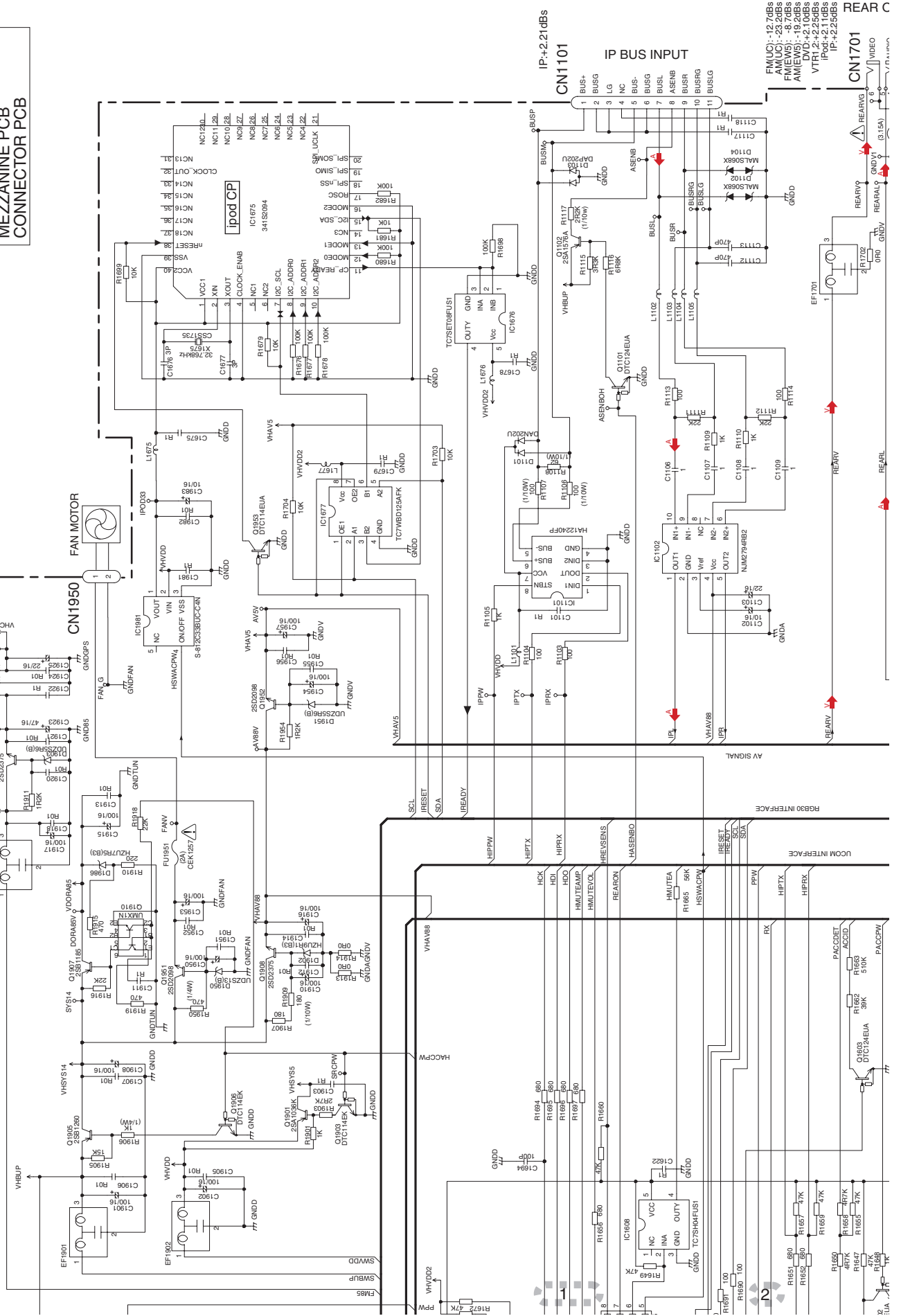
Composite Video Signal

Audio Signal

MOTHER TUNER UNIT(UC)  
MOTHER TUNER(EW5)  
Consists of  
IPOD PCB  
MOTHER PCB  
MEZZANINE PCB  
CONNECTOR PCB

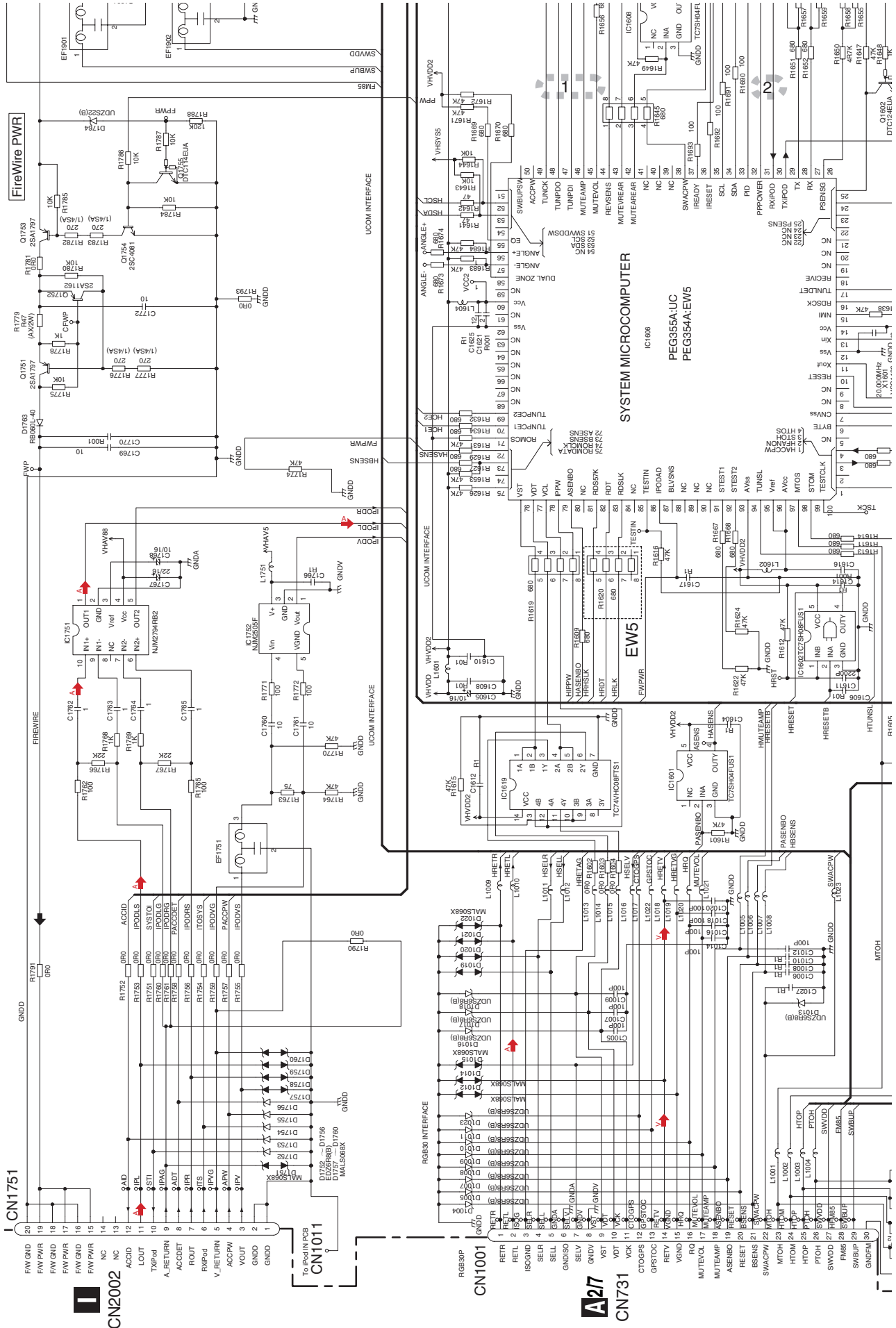


AVIC-N4/XU/UC

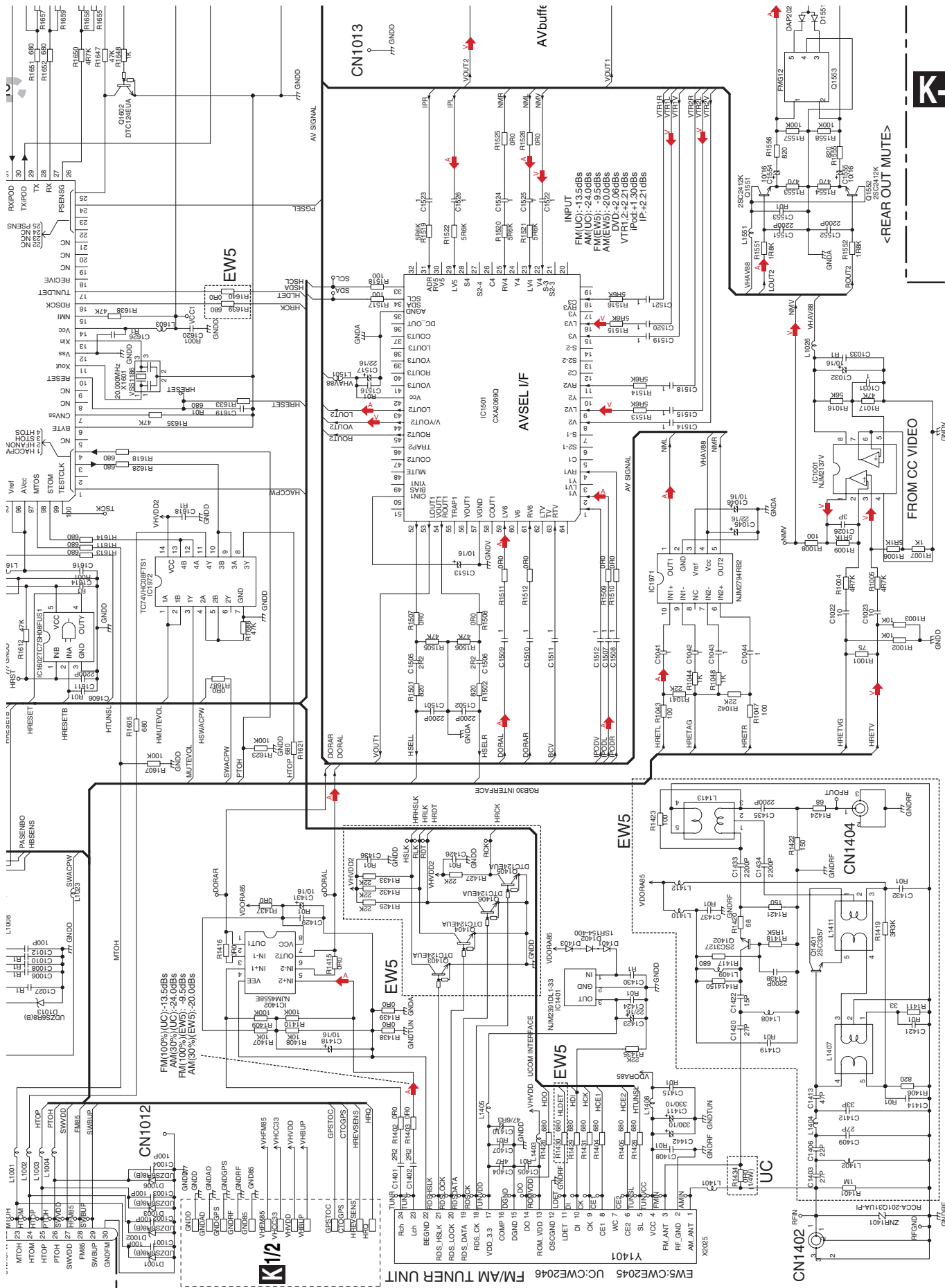




**K-a 2/2**







K-a 2/2

K-b 2/2

K-a K-b

A  
B  
C  
D  
E  
F

# 10.20 MAIN PCB UNIT(SERVICE), SWITCH PCB UNIT AND VOLUME PCB UNIT

A

B

C

D

E

F

$$V_{out} = V_c * (R1 + R2) / R1$$

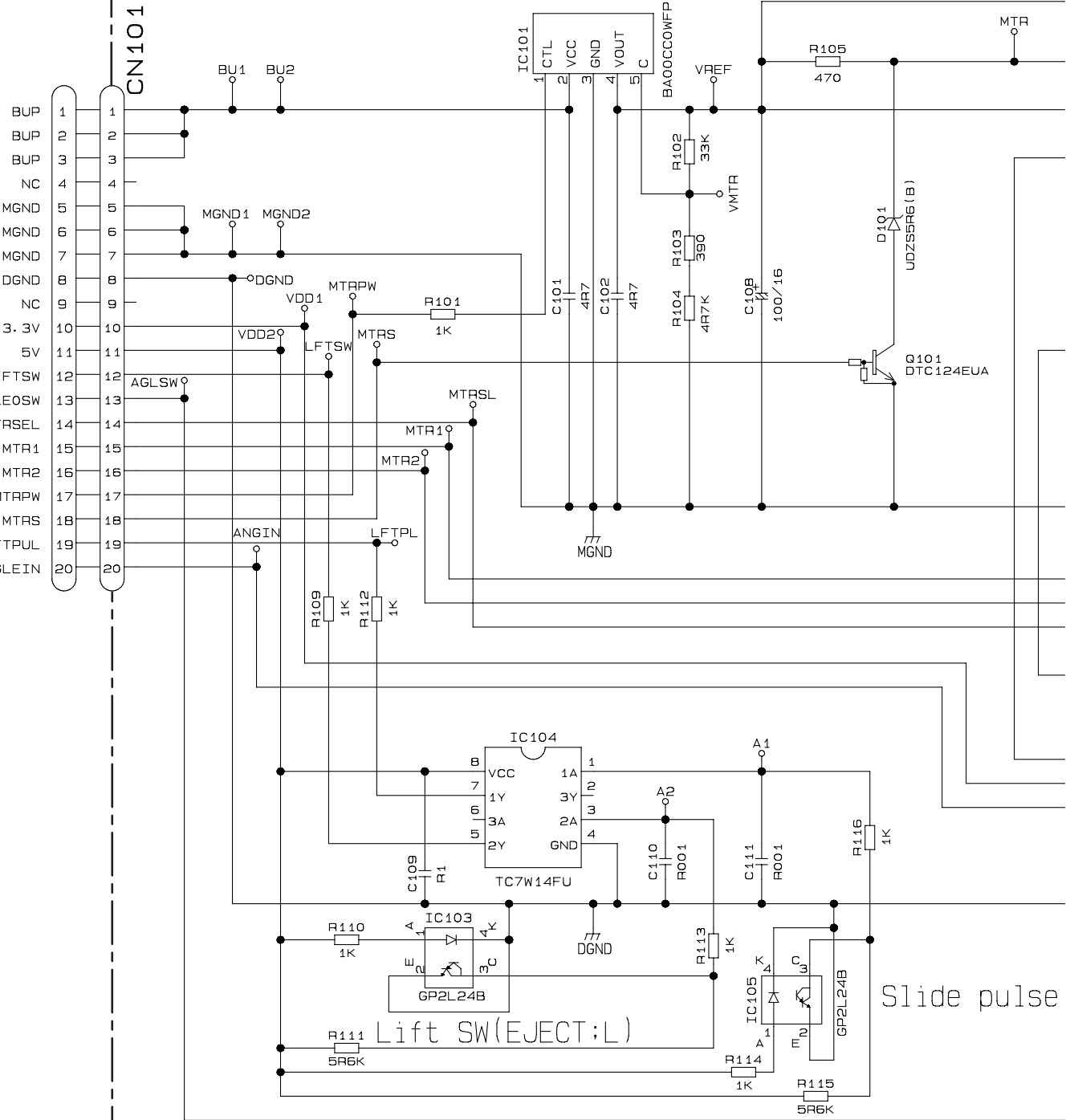
$$V_c = 1.225V (typ)$$

$$R1 = 5.09, R2 = 33k$$

$$V_{out} = 9.15V$$

## M MAIN PCB UNIT(SERVICE)

A27  
CN608



M

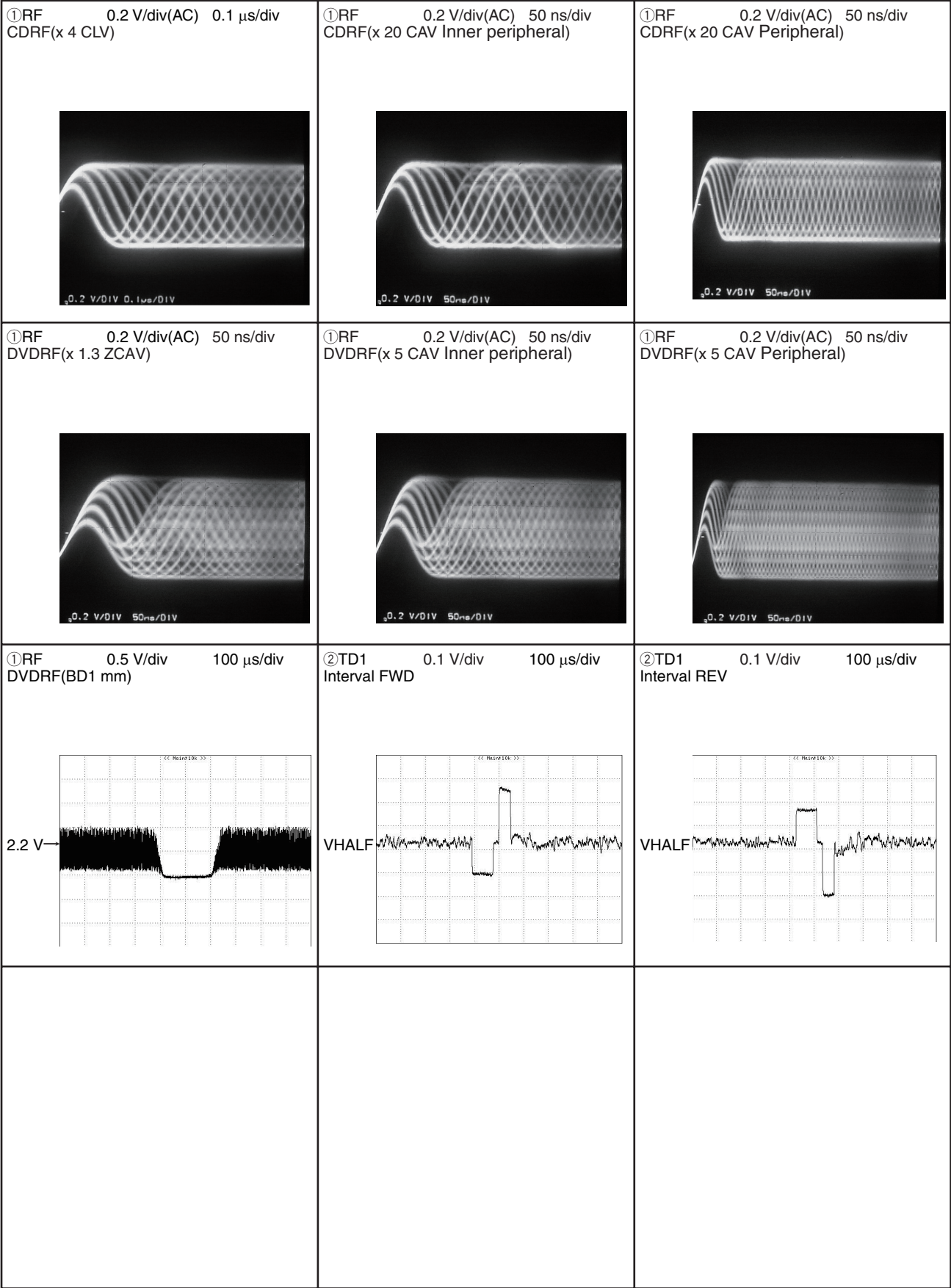
AVIC-N4/XU/UC

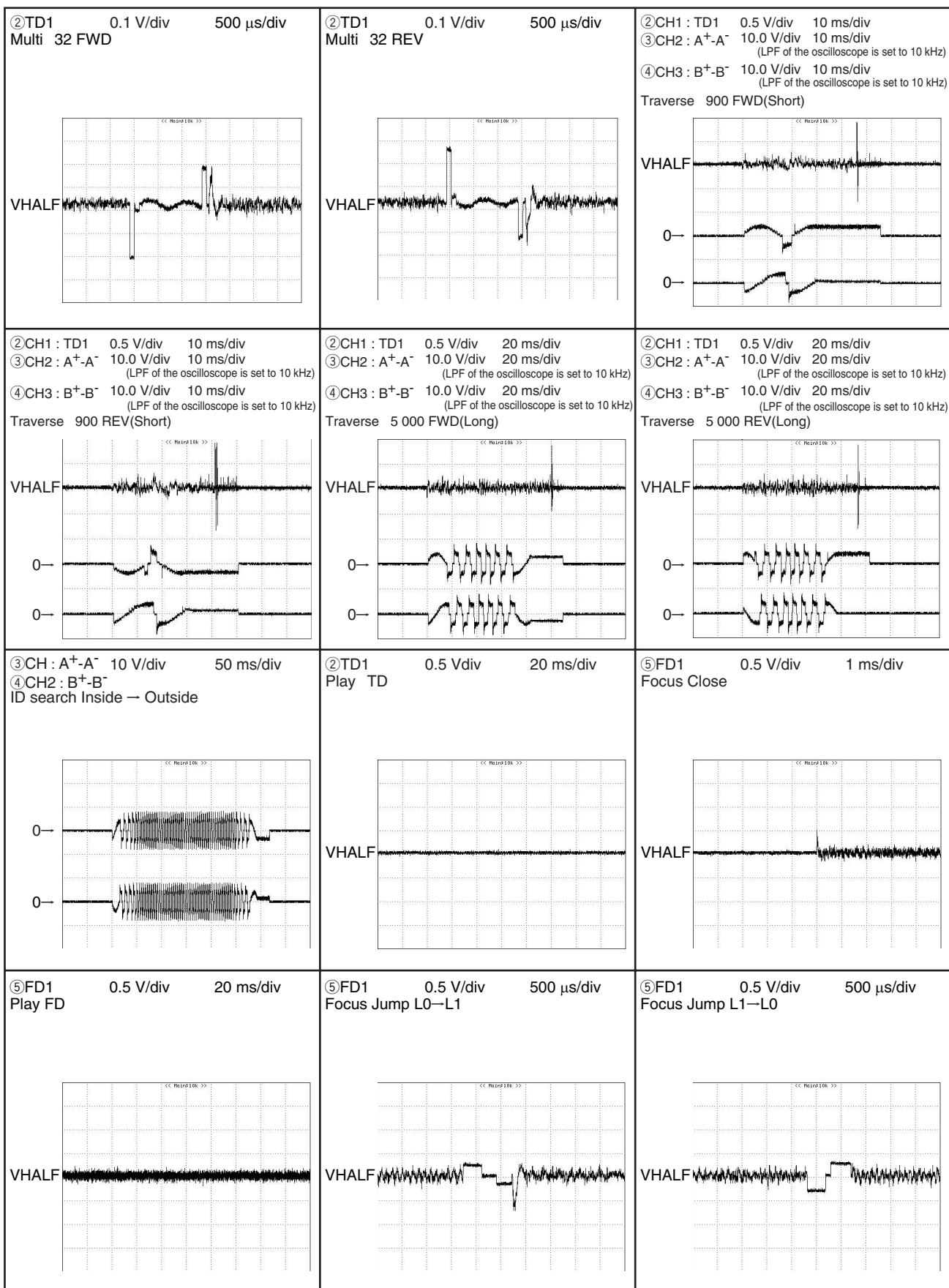


10.21 WAVEFORMS

DVD CORE UNIT

Note:1. The encircled number denote measuring points in the circuit diagram.  
2. Reference voltage: 1.65 V(TD1,FD1)(=VHALF)  
2.2 V(RF)(=VREF)  
In the waveform, it is seeing on the GND standard.  
Offset of 1.65 V or 2.2 V is put in.





# 11. PCB CONNECTION DIAGRAM

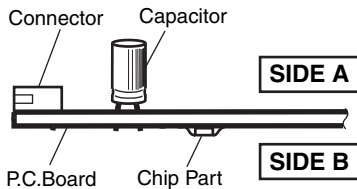
## 11.1 CC UNIT

### NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.

For further information for respective destinations, be sure to check with the schematic diagram.

2. Viewpoint of PCB diagrams



⚠ FU 801 (A,63,118) Fuse 1.25 A	CEK1255
⚠ FU 802 (A,8,61) Fuse 4 A	CEK1260
⚠ FU 803 (A,69,119) Fuse 400 mA	CEK1250
⚠ FU 804 (A,24,72) Fuse 2.5 A	CEK1258
⚠ FU 805 (A,61,71) Fuse 2.5 A	CEK1258
⚠ FU 806 (A,58,119) Fuse 1 A	CEK1254
⚠ FU 807 (A,41,84) Fuse 1 A	CEK1254
⚠ FU 808 (A,11,109) Fuse 4 A	CEK1260
⚠ FU 809 (A,125,135) Fuse 2 A	CEK1257
⚠ FU 810 (A,103,140) Fuse 1.25 A	CEK1255
⚠ FU 811 (A,83,72) Fuse 2 A	CEK1257
⚠ FU 812 (A,117,141) Fuse 250 mA	CEK1248
⚠ FU 813 (A,83,47) Fuse 2.5 A	CEK1258
⚠ FU 821 (A,19,79) Fuse 3.15 A	CEK1259
⚠ FU 822 (A,64,80) Fuse 1 A	CEK1254
⚠ FU 823 (A,48,71) Fuse 2 A	CEK1257
⚠ FU 971 (A,10,120) Fuse 400 mA	CEK1250

### A CC UNIT

D CN1852

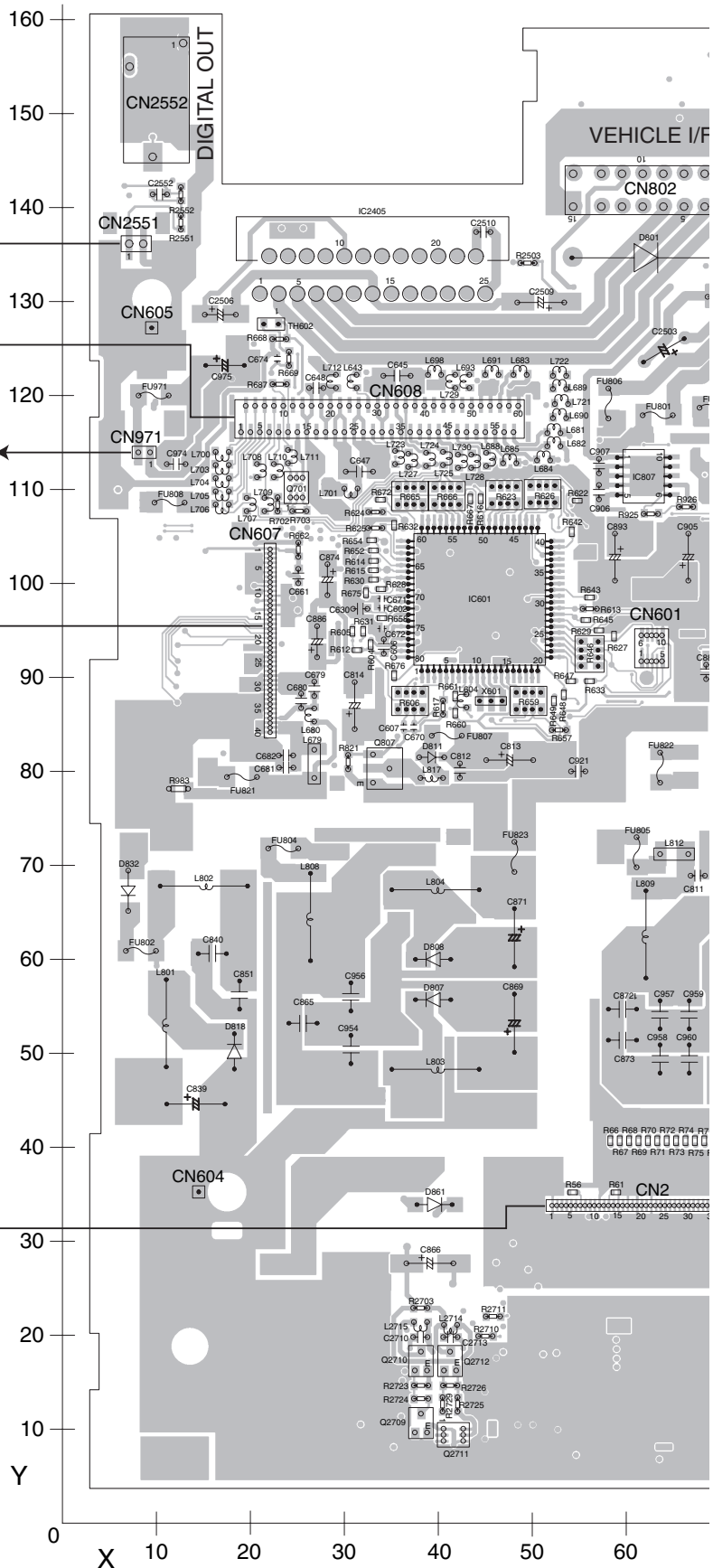
M CN101

G CN5003

AMP FAN MOTOR

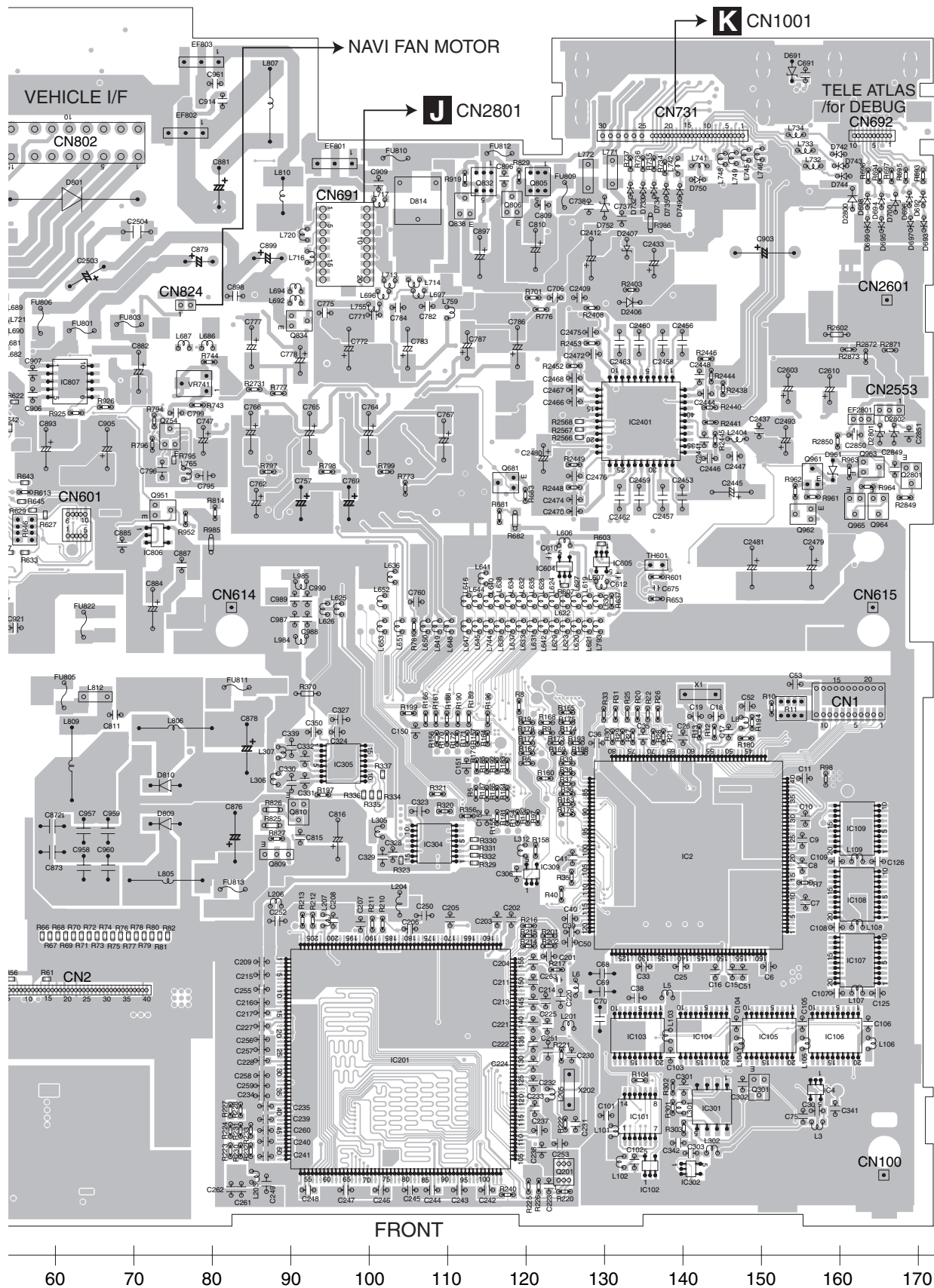
D CN1901

D CN2001





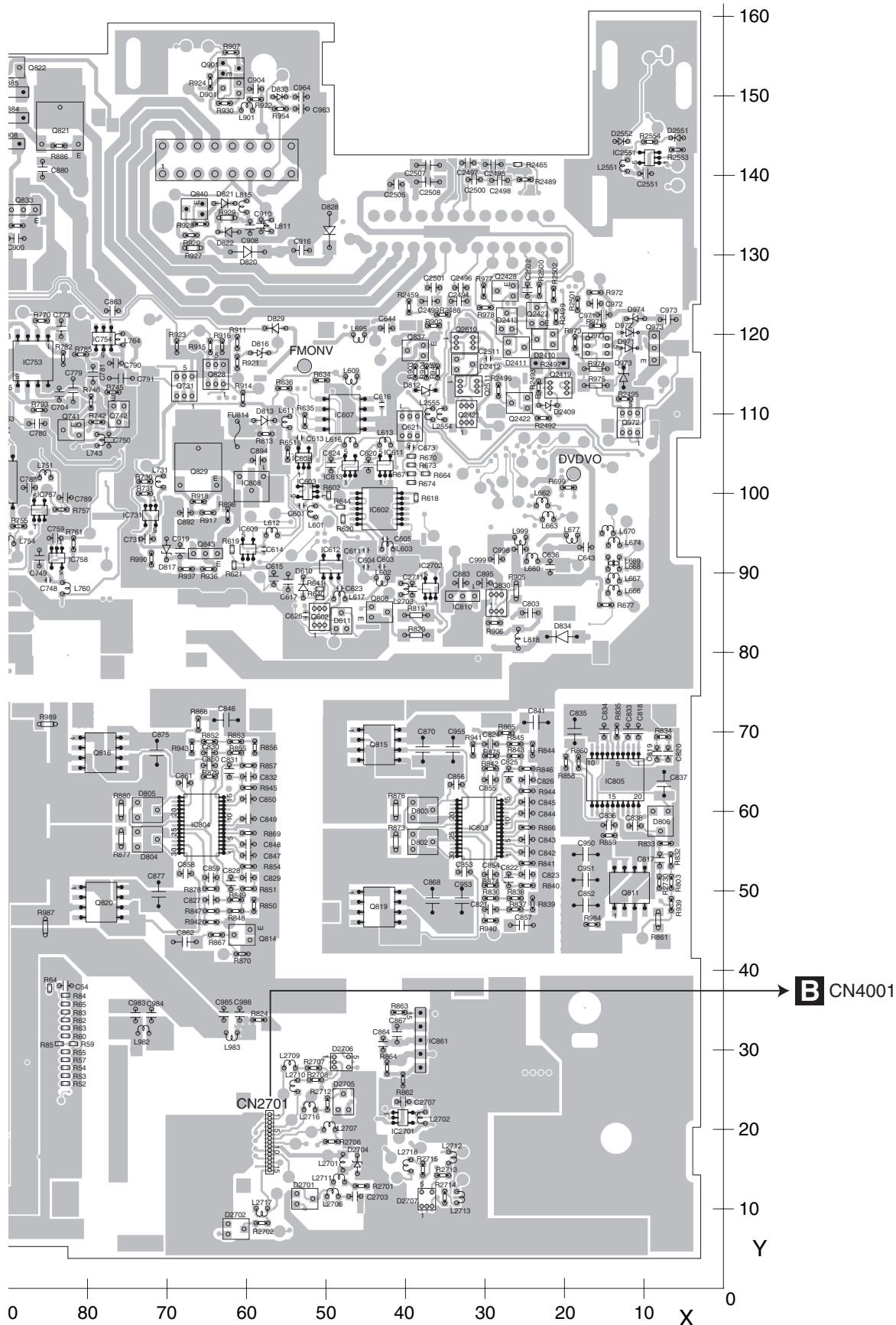
## SIDE A



4



SIDE B



## 4

## SIDE B



**SIDE A**

A



C

## SIDE B

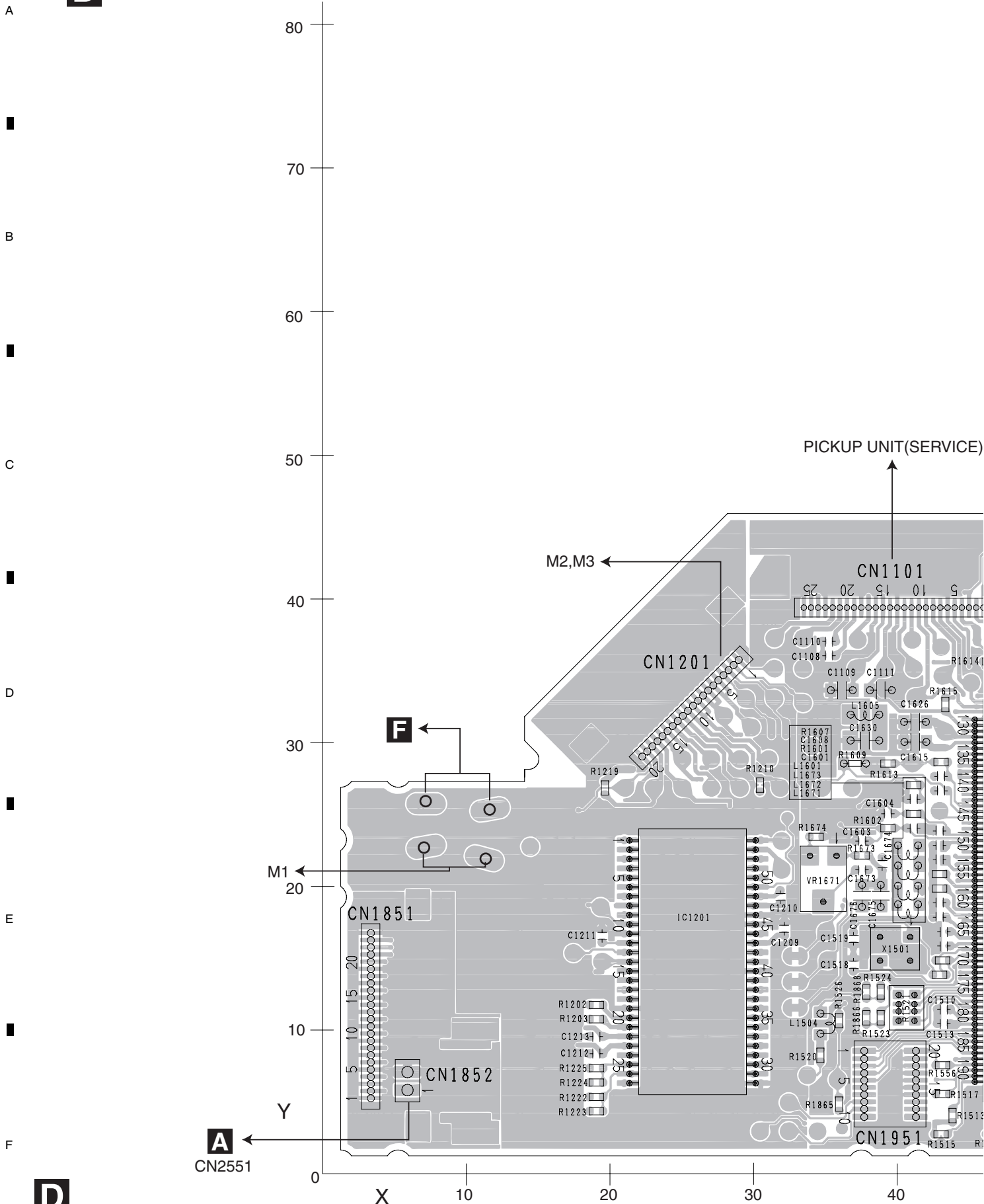


F

F

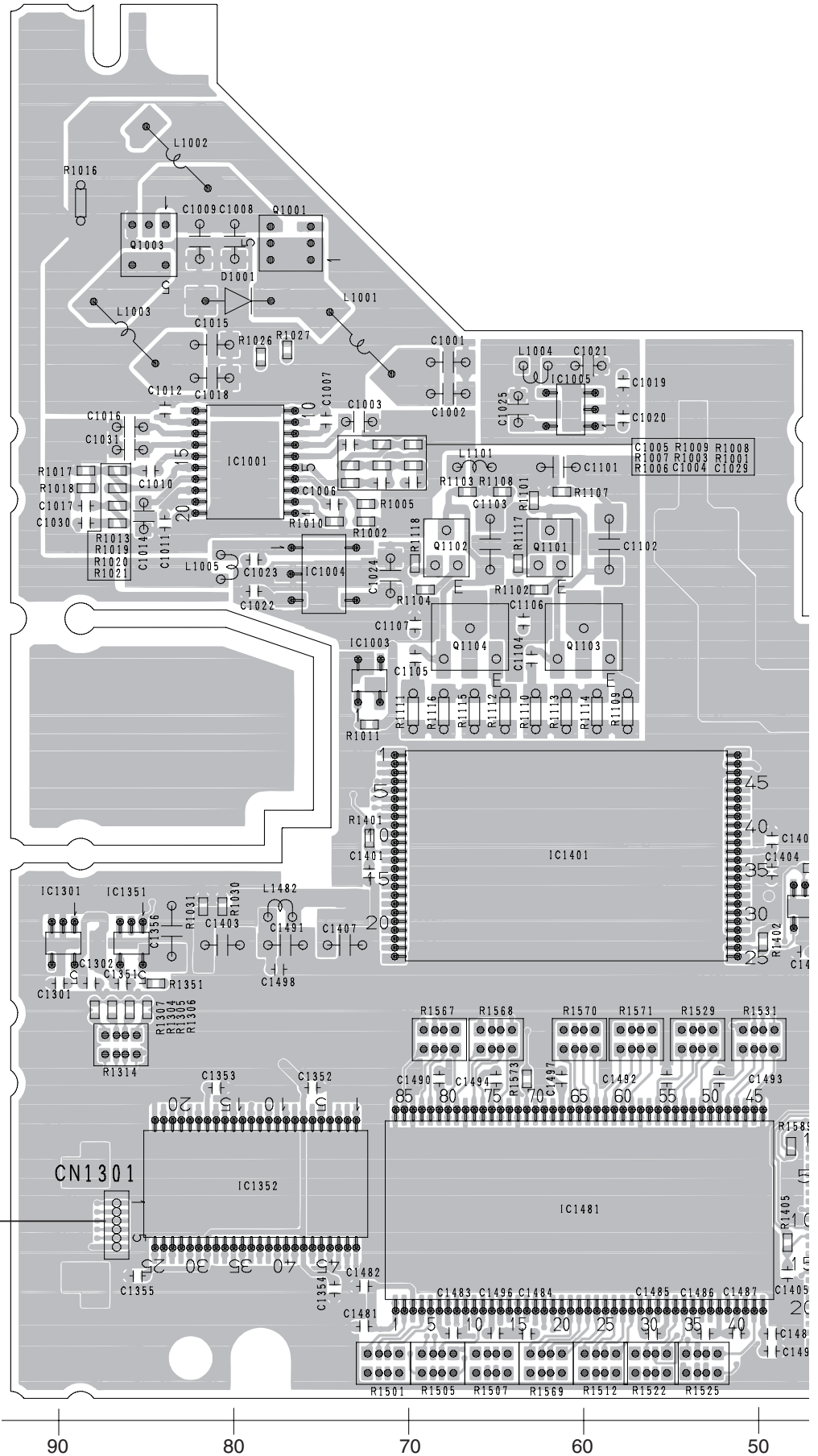
# 11.4 DVD CORE UNIT

## D DVD CORE UNIT





A



AVIC-N4/XU/UC

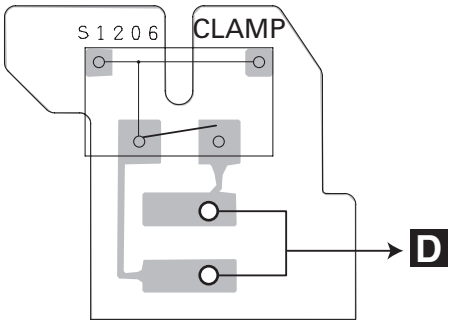
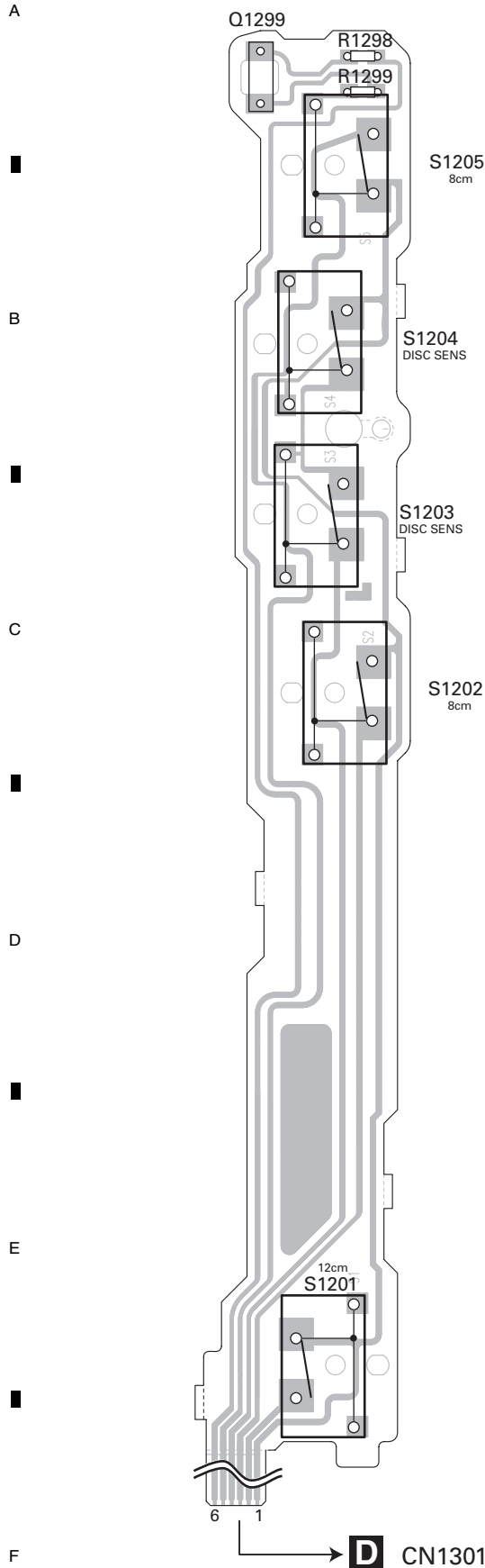




# 11.5 COMPOUND UNIT(A) AND COMPOUND UNIT(B)

**E** COMPOUND UNIT(A)

**F** COMPOUND UNIT(B)



**E F**



■

5

■

6

■

7

■

8

■

A

■

B

■

C

■

D

■

E

■

F

■

5

■

6

■

7

■

8

■

AVIC-N4/XU/UC

# 11.6 MONITOR PCB

**G** MONITOR PCB

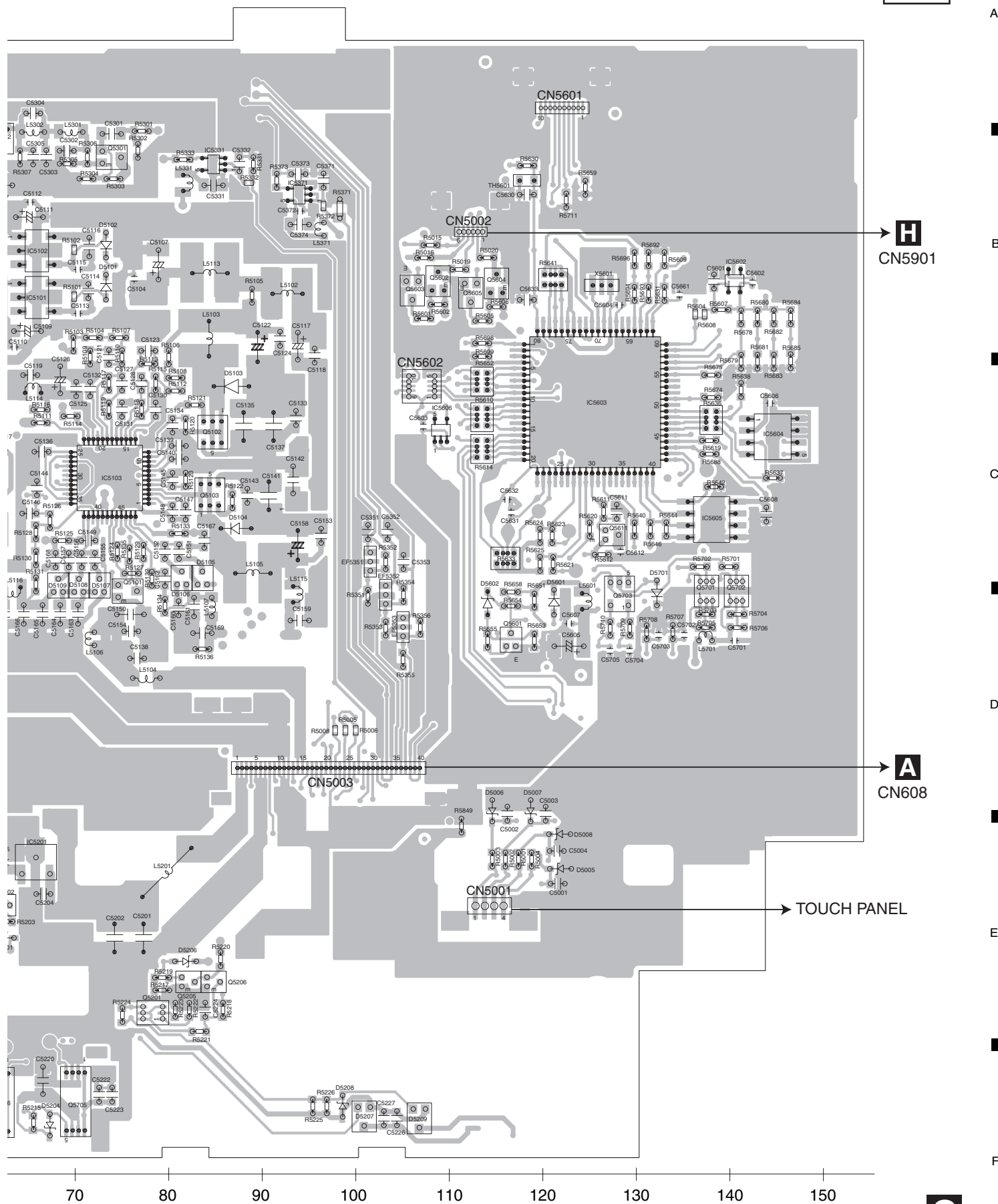
LCD MODULE ←

AVIC-N4/XU/UC

250

SIDE A

A

H  
CN5901

B

C

D

A  
CN608

TOUCH PANEL

E

F

G

AVIC-N4/XU/UC



MONITOR PCB

A

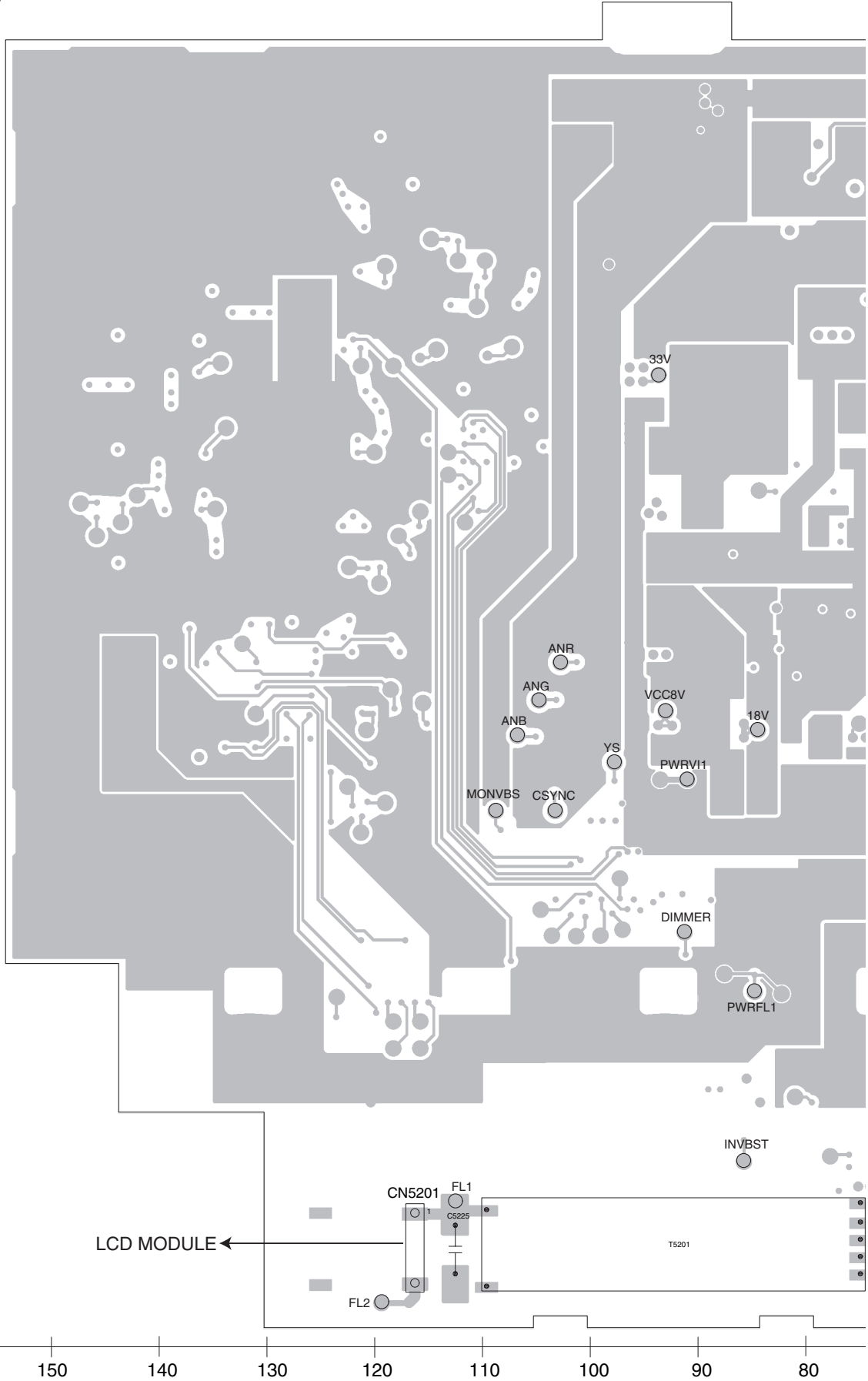
B

C

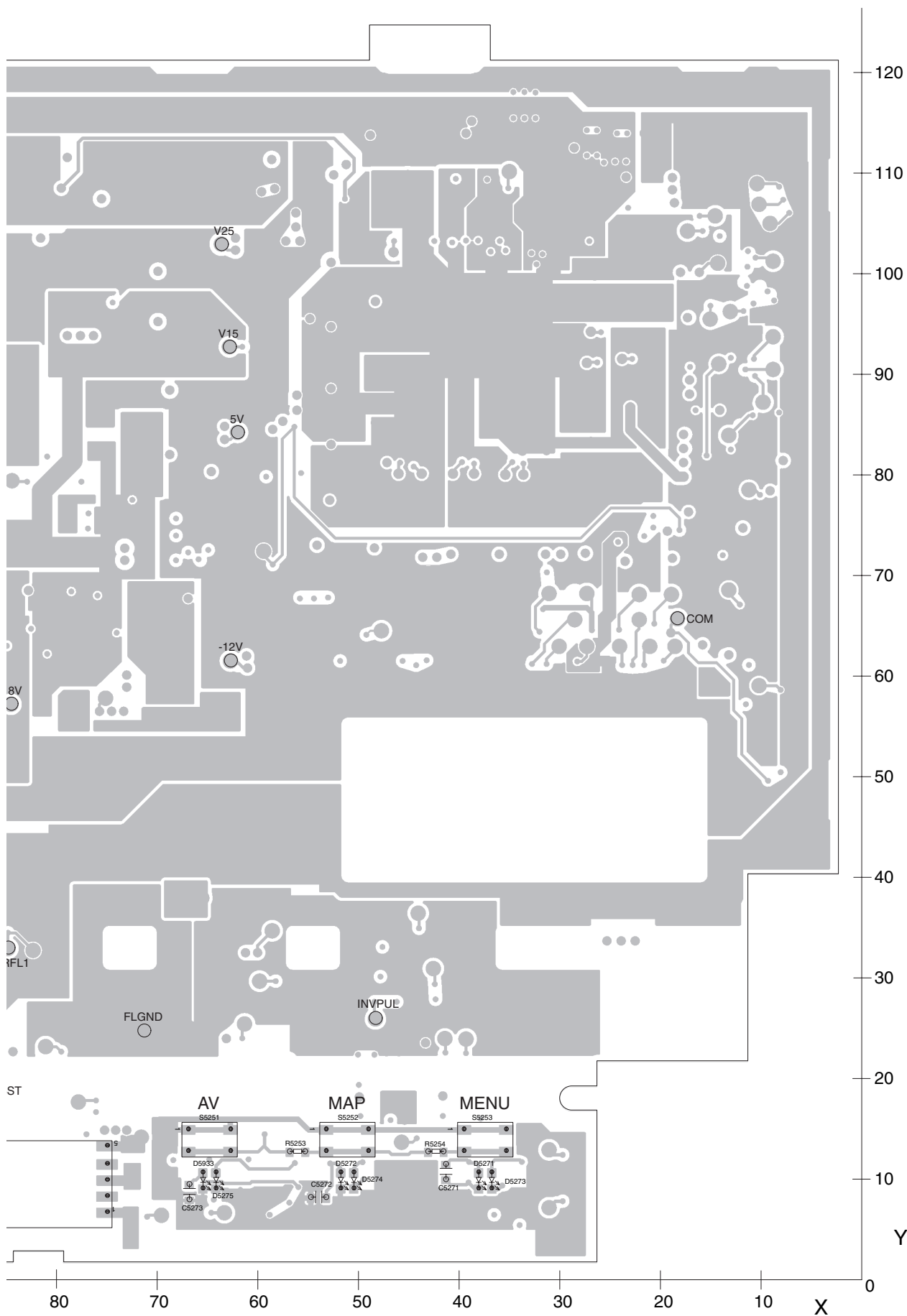
D

E

F



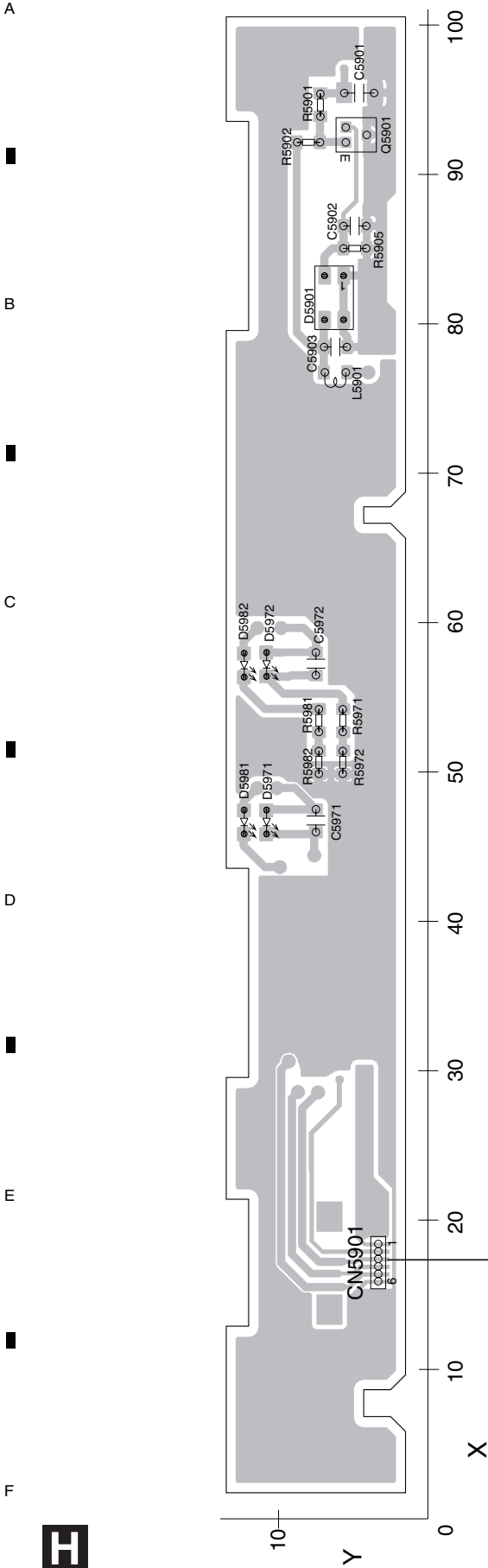
SIDE B



A  
B  
C  
D  
E  
F

11.7 UPPER PCB

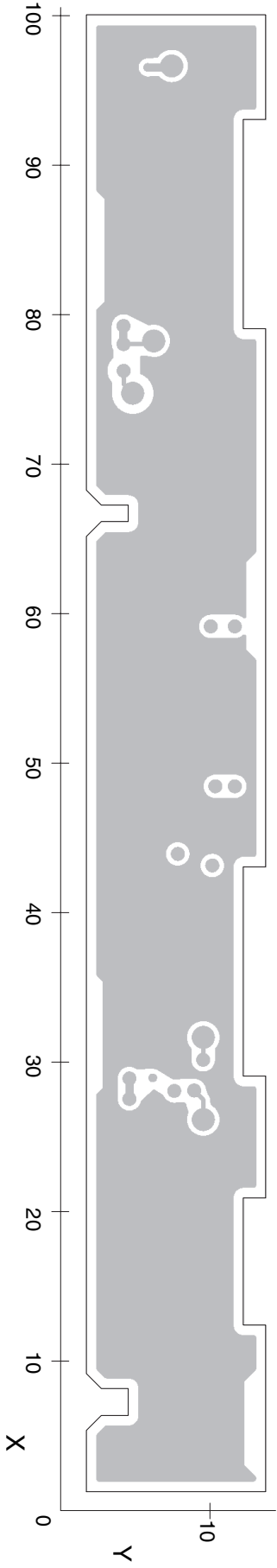
H UPPER PCB



SIDE A

H UPPER PCB

SIDE B

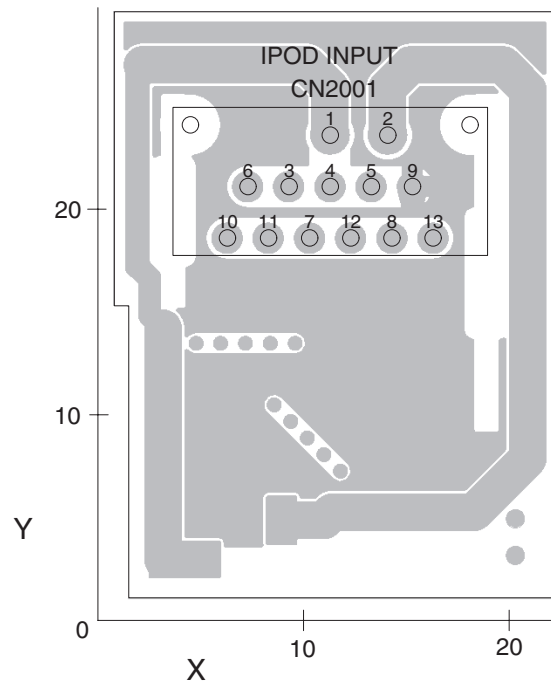


5

# 11.8 IPOD PCB

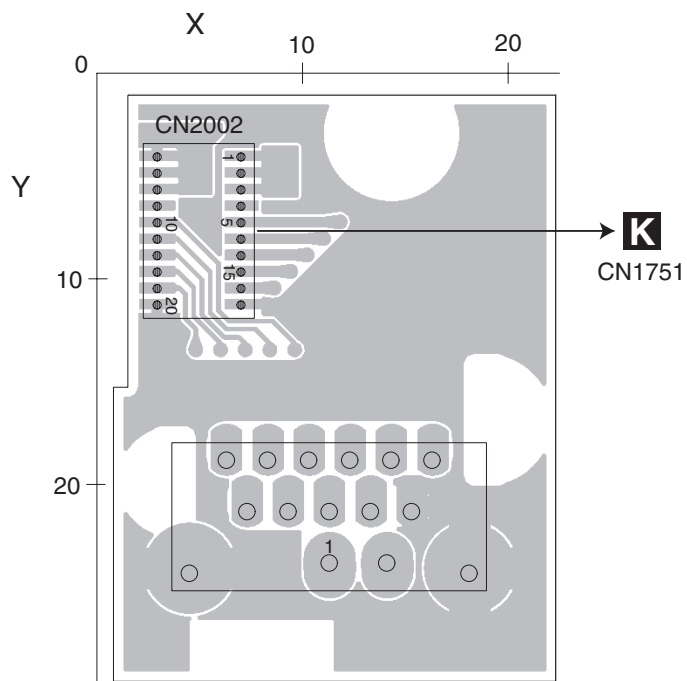
**I** IPOD PCB

**SIDE A**



**I** IPOD PCB

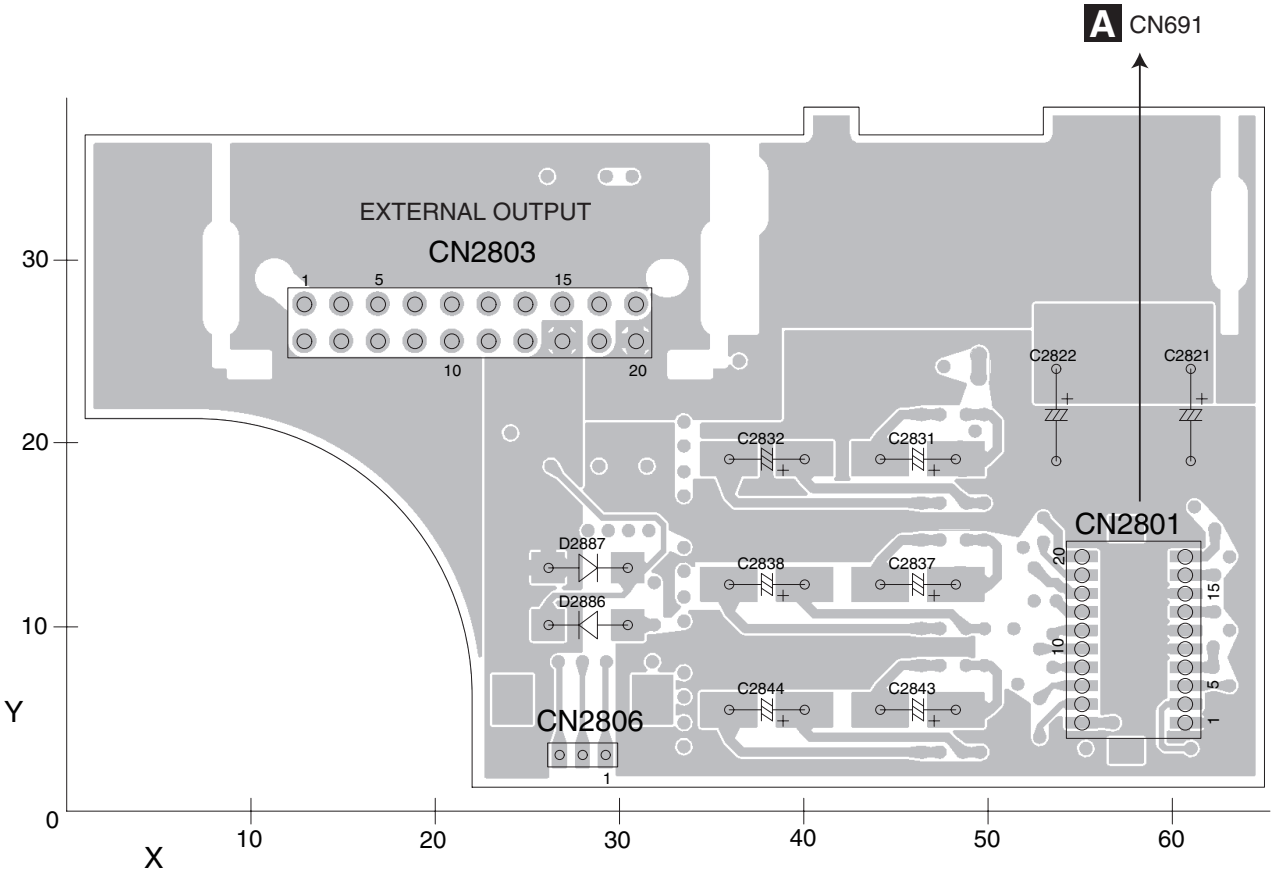
**SIDE B**



11.9 MEZZANINE PCB

J MEZZANINE PCB

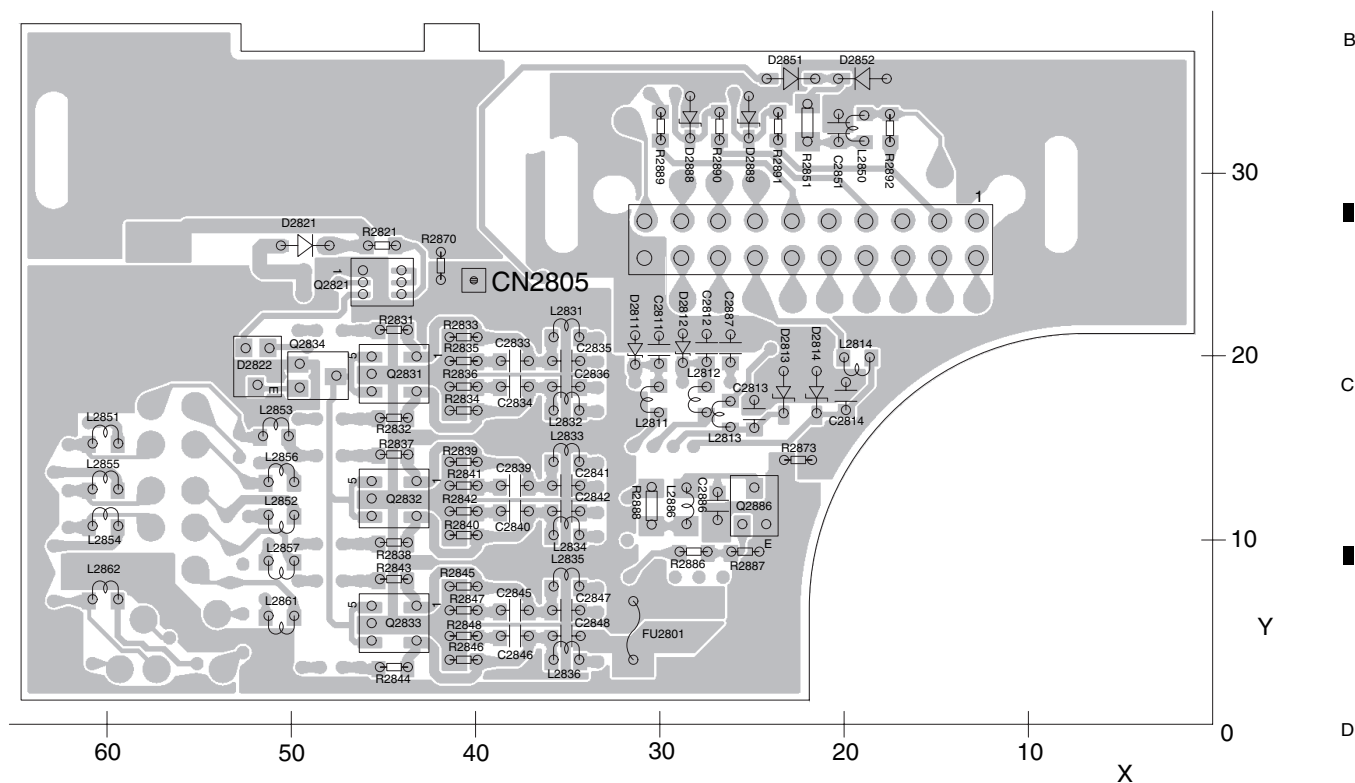
SIDE A



J



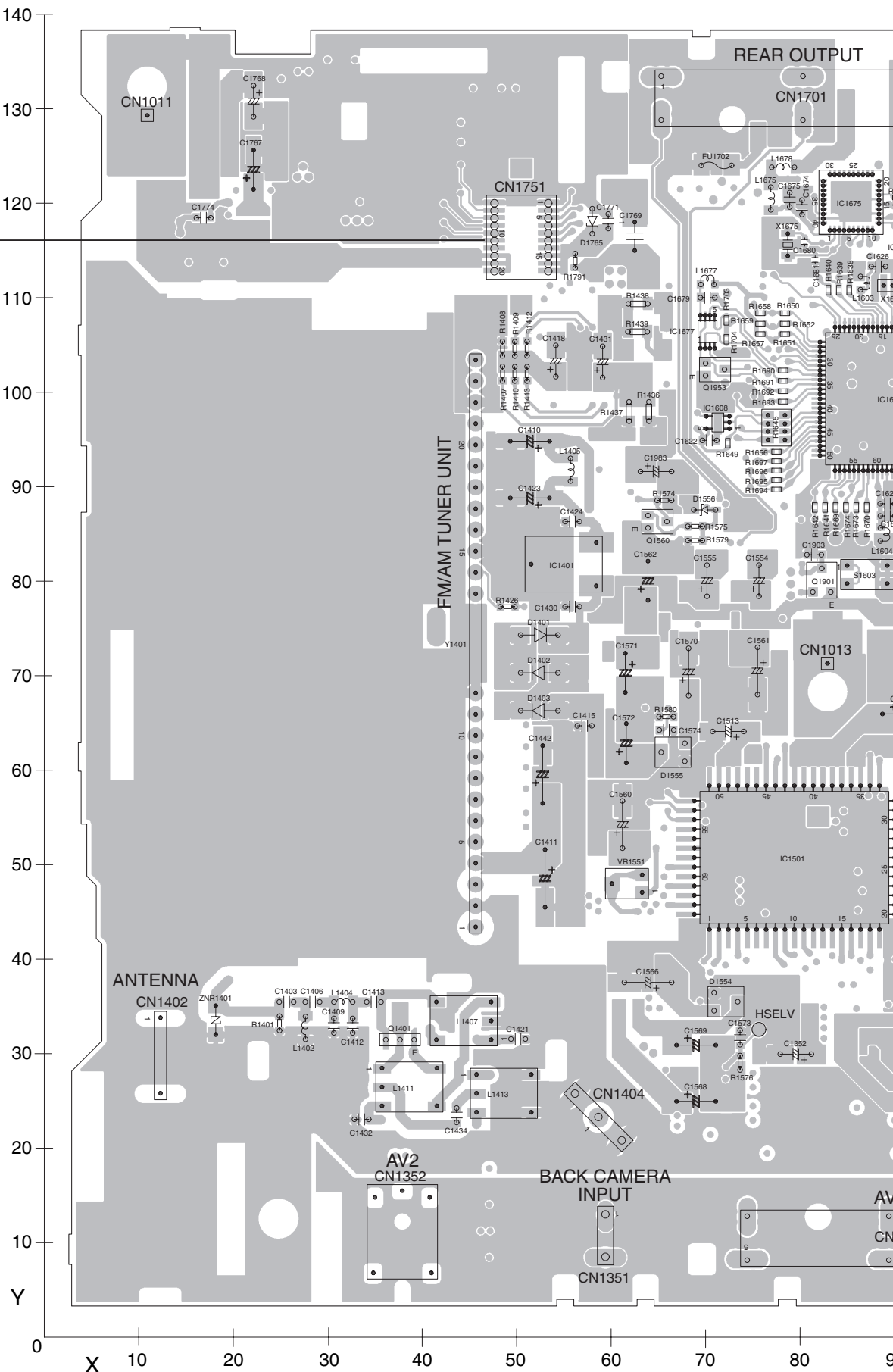
# J MEZZANINE PCB

**SIDE B**


# 11.10 MOTHER PCB

## K MOTHER PCB

I  
CN2002



AVIC-N4/XU/UC

A



FAN MOTOR

C

□

**E**

F

1

2

3

4

**K** MOTHER PCB

A

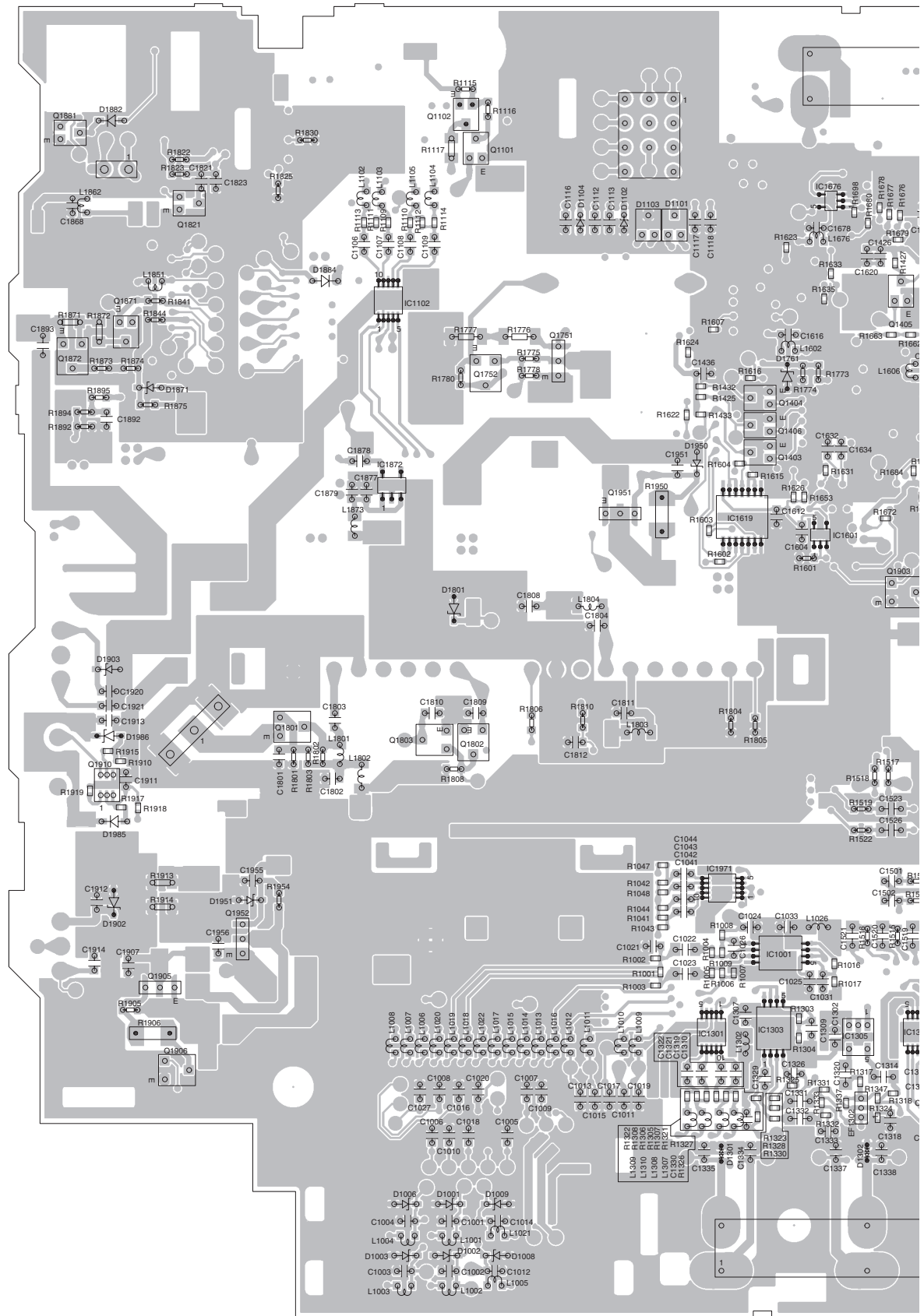
B

C

D

E

F



170

160

150

140

130

120

110

100

90

AVIC-N4/XU/UC

260

1

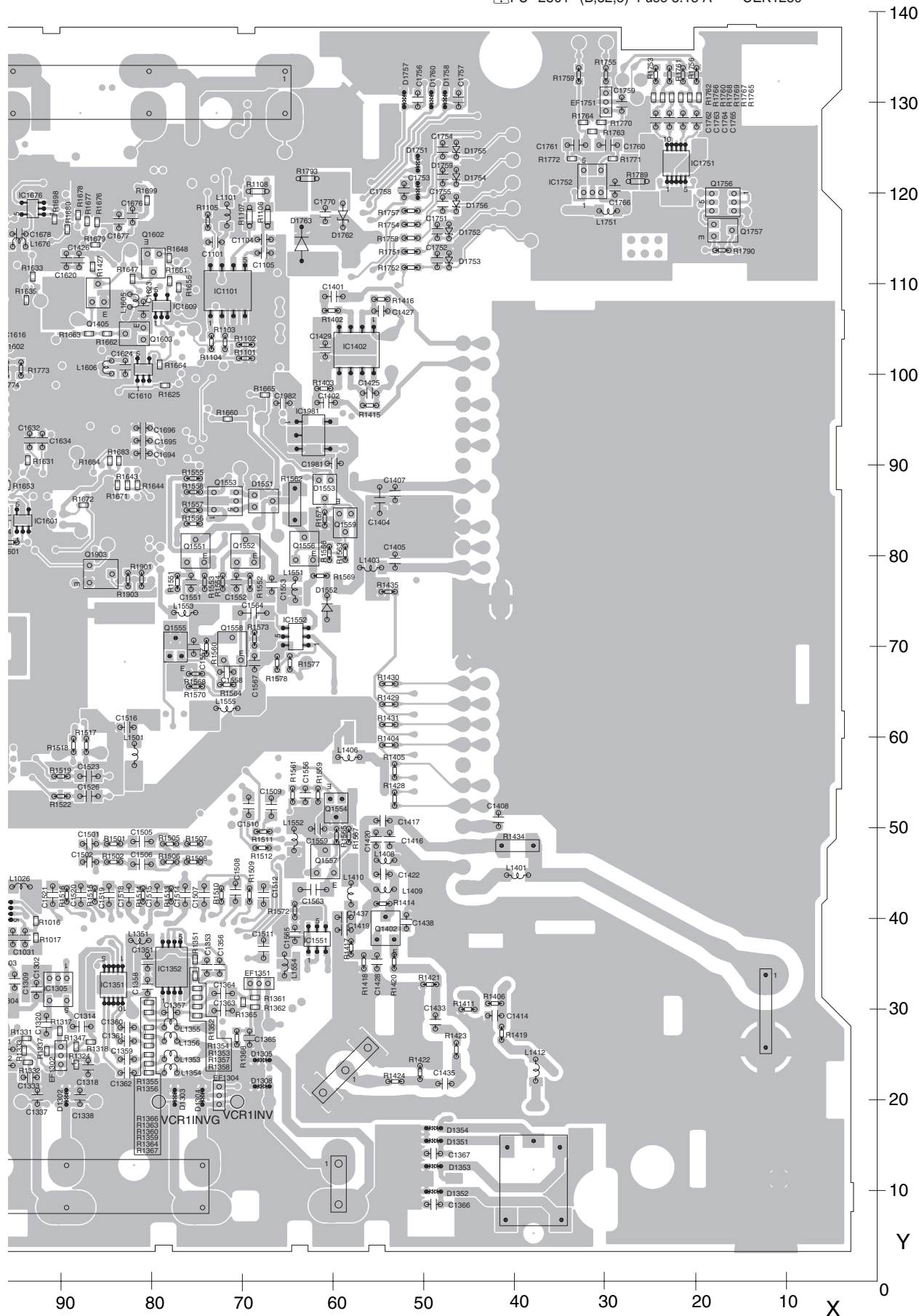
2

3

4

**SIDE B**

⚠FU 2801 (B,32,5) Fuse 3.15 A CEK1259



11.11 CONNECTOR PCB

A

L

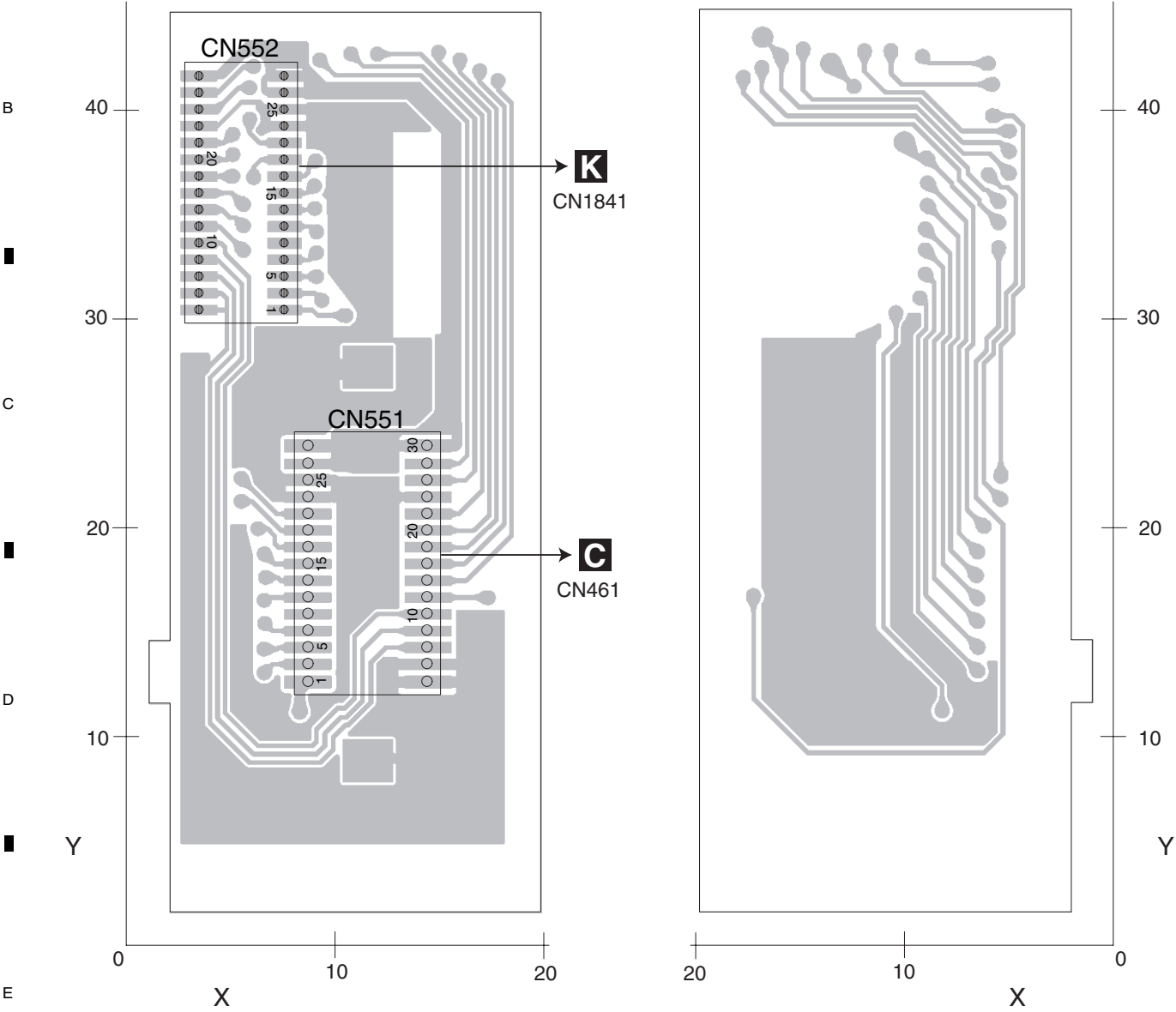
CONNECTOR PCB

SIDE A

L

CONNECTOR PCB

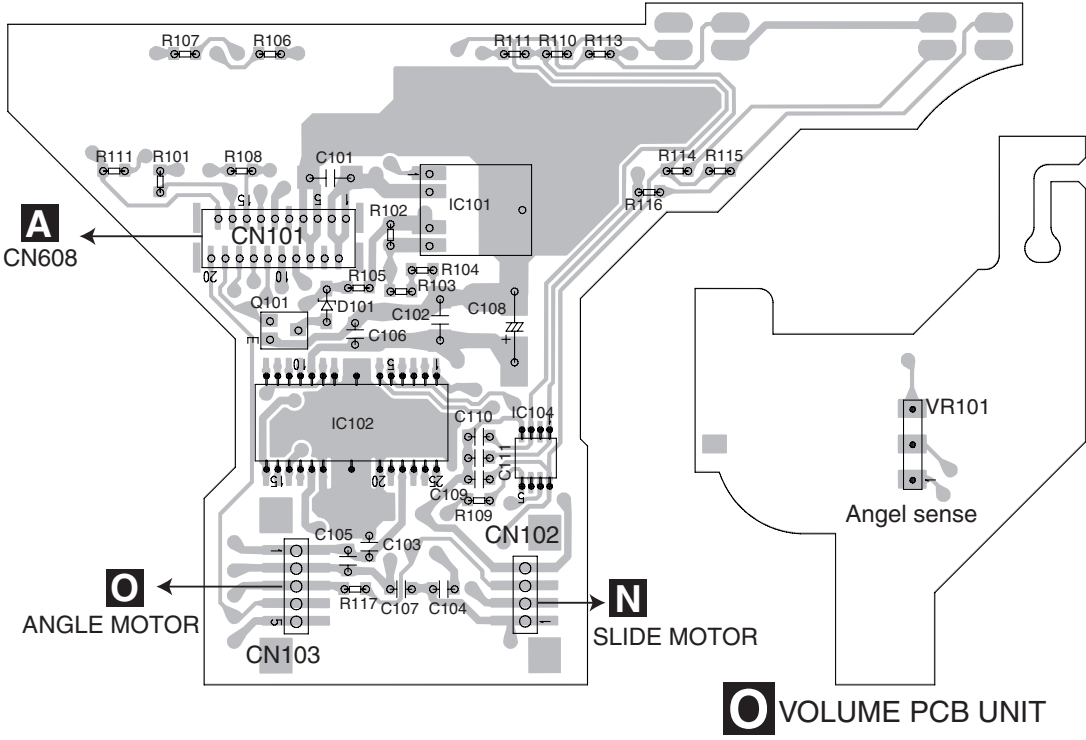
SIDE B



■ 5 ■ 6 ■ 7 ■ 8 ■



## SIDE A

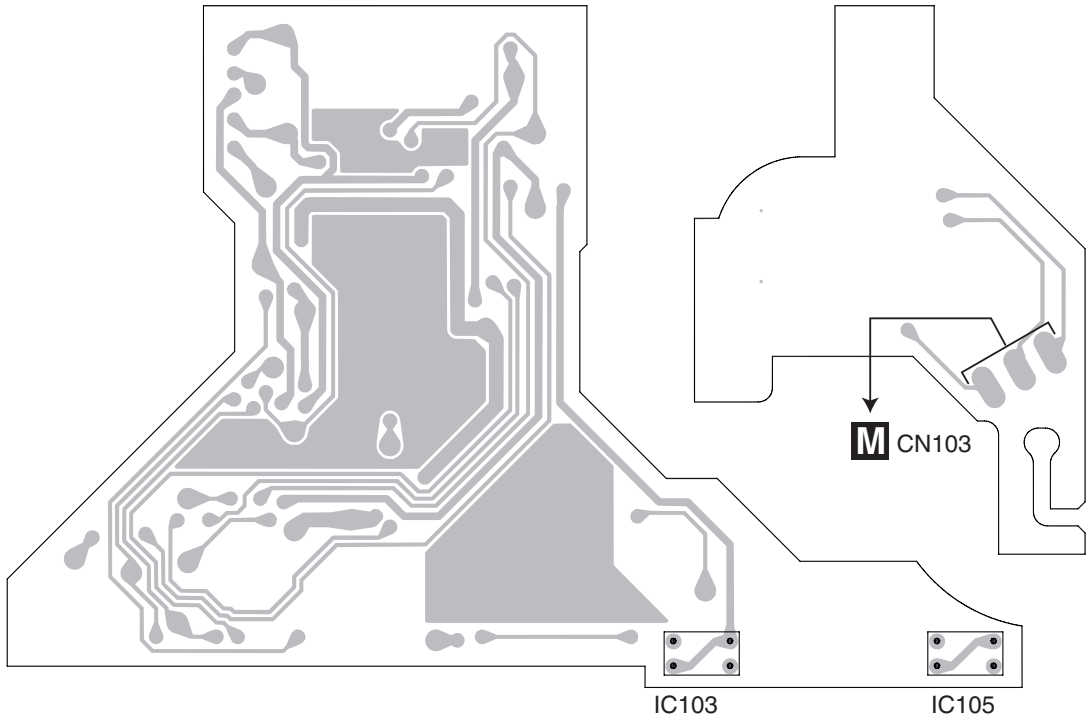


**N**

**M**

**M**

O



## SIDE B

M

IC103

IC105

**M N O**



# 12. ELECTRICAL PARTS LIST

NOTE:


- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○○○○J,RS1/○○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Meaning of the figures and others in the parentheses in the parts list.

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

Circuit Symbol and No.      Part No.

Unit Number : CWN2308(UC)

Unit Number : CWN2309(EW5)

Unit Name : CC Unit

Unit Number :

Unit Name : Keyboard Unit

Unit Number : CWX3533(UC)

Unit Number : CWX3534(EW5)

Unit Name : GPS Unit

Unit Number : CWN2304

Unit Name : Monitor Unit

Unit Number : CWN2310(UC)

Unit Name : Mother Tuner Unit(UC)

Unit Number : CWN2311(EW5)

Unit Name : Mother Unit(EW5)

Unit Number : CXX2316

Unit Name : Main PCB Unit(SERVICE)

Unit Number : CZW5029

Unit Name : Switch PCB Unit

Unit Number : CZW5028

Unit Name : Volume PCB Unit

Unit Number : CWX3401

Unit Name : DVD Core Unit

Unit Number : CWX3154

Unit Name : Compound Unit(A)

Unit Number : CWX3394

Unit Name : Compound Unit(B)

Circuit Symbol and No.      Part No.

**A**

Unit Number : CWN2308(UC)

Unit Number : CWN2309(EW5)

Unit Name : CC Unit

## MISCELLANEOUS

IC 1	(B,138,30)	IC	K4S561632E-TL75
IC 2	(A,141,51)	IC	UPD705103GM-180S1
IC 3	(B,154,30)	IC	HY57V561620FLTP-H
IC 4	(A,157,21)	IC	TC7SZ08FU
IC 5	(B,146,55)	IC	PD6336C
IC 101	(A,135,18)	IC	TC74LCX08FTS1
IC 102	(A,136,11)	IC	TC7SH04FUS1
IC 103	(A,134,28)	IC	TC74LCX245FTS1
IC 104	(A,143,28)	IC	TC74LCX245FTS1
IC 105	(A,151,28)	IC	TC74LCX245FTS1
IC 106	(A,159,28)	IC	TC74LCX245FTS1
IC 107	(A,162,38)	IC	TC74LCX541FTS1
IC 108	(A,162,46)	IC	TC74LCX541FTS1
IC 109	(A,162,54)	IC	TC74LCX541FTS1
IC 110	(B,117,40)	IC(UC)	PEH155A8
	(B,117,40)	IC(EW5)	PEH153A8
IC 111	(B,117,24)	IC(UC)	PEH156A8
	(B,117,24)	IC(EW5)	PEH154A8
IC 112	(B,106,62)	IC	TC7SH00FUS1
IC 113	(B,118,57)	IC	M5M5V216ATP-70HI
IC 114	(B,106,59)	IC	TC7SH08FUS1
IC 201	(A,104,25)	IC	MB86291APFVS-G-DL
IC 301	(A,144,19)	IC	M51957BFP
IC 302	(A,141,11)	IC	TC7SH08FUS1
IC 304	(A,108,53)	IC	AK4388VT
IC 309	(A,121,49)	IC	TC7SH08FUS1
IC 601	(A,44,98)	IC	PEG356A
IC 602	(B,43,98)	IC	TC74VHCT08AFTS1
IC 603	(B,52,100)	IC	TC7SH08FUS1
IC 604	(A,125,88)	IC	TC7SH08FUS1
IC 605	(A,130,88)	IC	TC7SH08FUS1
IC 608	(B,53,104)	IC	TC7SH08FUS1
IC 609	(B,60,93)	IC	TC7S32FU
IC 611	(B,43,103)	IC	TC7S04FU



5			6			7			8		
<u>Circuit Symbol and No.</u>			<u>Part No.</u>			<u>Circuit Symbol and No.</u>			<u>Part No.</u>		
IC 612	(B,49,91) IC		S-80840CNMC-B8Z			Q 829	(B,66,106) Transistor		2SB1184F5		
IC 613	(B,47,103) IC		TC7SH00FUS1			Q 830	(B,29,86) Transistor		UMF23N		
IC 691	(B,162,140) IC		UPD4721GSS1			Q 832	(A,115,137) FET		RSQ030P03		A
IC 751	(B,96,101) IC		CXA1645M			Q 833	(B,88,137) Transistor		2SA1797		
IC 752	(B,115,121) IC		NJM2137V			Q 834	(A,91,119) Chip Transistor		DTC114EUA		
IC 753	(B,87,117) IC		NJM2246M			Q 835	(B,116,136) Transistor		2SC4081		
IC 754	(B,78,119) IC		NJM2561F1			Q 837	(B,39,118) Transistor		2SC4081		
IC 755	(B,106,115) IC		NJM2561F1			Q 838	(A,112,134) Digital Transistor		DTC144EUA		
IC 756	(B,98,116) IC		NJM2235V			Q 840	(B,67,136) Transistor		2SA1576A		
IC 757	(B,86,98) L-MOS And Gate		TC7SET08FUS1			Q 843	(B,65,94) Transistor		2SD1767		
IC 758	(B,84,92) IC		TC7SZ08FU			Q 901	(B,62,153) Transistor		2SA1576A		
IC 803	(B,31,58) IC		TPS5102IDBT			Q 951	(A,74,95) Chip Transistor		DTC114EUA		
IC 804	(B,66,58) IC		TPS5102IDBT			Q 961	(A,157,99) Transistor		2SA1576A		
IC 805	(B,14,64) IC		TPS5103IDB			Q 962	(A,155,95) Digital Transistor		DTC143EUA		B
IC 806	(A,73,92) IC		S-L2980A33MC-C6S			Q 963	(A,164,101) Transistor		DTC144TUA		
IC 807	(A,62,111) IC		TPD1018F			Q 964	(A,165,96) Chip Transistor		DTA114EUA		
IC 808	(B,59,100) IC		S-812C52AUA-C3G			Q 965	(A,162,96) Chip Transistor		DTC114EUA		
IC 810	(B,33,85) IC		S-812C50AUA-C3E			Q 971	(B,16,119) Transistor		IMX2		
IC 861	(B,33,31) IC		BA00DD0WHFP			Q 972	(B,12,109) Transistor		IMD3A		
IC 2401	(A,135,106) IC		PML009A			Q 973	(B,7,118) Transistor		2SD1767		
IC 2403	(B,153,86) IC		TDA7052BT			Q 2401	(B,124,119) Transistor		UMD2N		
IC 2404	(B,146,109) IC		NJM2058V			Q 2402	(B,127,133) Transistor		DTC323TU		
IC 2405	(A,33,137) IC		PAL007C			Q 2403	(B,127,127) Transistor		DTC323TU		
IC 2407	(B,133,130) IC		NJM3403AV			Q 2410	(B,124,116) Transistor		UMD2N		
IC 2408	(B,132,118) IC		NJM2107F			Q 2415	(B,134,107) Transistor		UMD2N		C
IC 2551	(B,9,142) L-MOS And Gate		TC7SET08FUS1			Q 2416	(B,134,111) Transistor		UMD2N		
IC 2553	(B,115,109) IC		NJM2068V			Q 2417	(B,138,106) Transistor		DTC323TU		
IC 2701	(B,40,21) IC		TC7SH08FUS1			Q 2418	(B,138,112) Transistor		DTC323TU		
IC 2702	(B,37,88) IC		TC7SH14FUS1			Q 2419	(B,21,113) Transistor		UMD2N		
Q 201	(A,125,11) Transistor		UMD2N			Q 2420	(B,141,85) Chip Transistor		DTC114EUA		
Q 301	(A,150,21) Chip Transistor		DTC114EUA			Q 2421	(B,32,110) Transistor		UMD2N		
Q 601	(B,150,134) Transistor		2SC4081			Q 2422	(B,26,111) Transistor		2SC4081		
Q 602	(B,51,84) Transistor		UMD2N			Q 2427	(B,24,122) Chip Transistor		DTC124EUA		
Q 621	(B,40,108) Transistor		IMD2A			Q 2428	(B,28,125) Chip Transistor		DTC124EUA		
Q 681	(A,117,99) Transistor		2SA1576A			Q 2511	(B,32,113) Transistor		UMD2N		
Q 691	(B,164,152) Transistor		2SD1767			Q 2610	(B,33,119) Transistor		UMD2N		D
Q 692	(B,154,148) Transistor		IMD3A			Q 2709	(A,38,11) Digital Transistor		DTC144EUA		
Q 701	(A,25,110) Transistor		UMF23N			Q 2710	(A,38,17) Transistor		2SA1577		
Q 731	(B,68,113) Transistor		IMD3A			Q 2711	(A,42,9) Transistor		UMH2N		
Q 741	(B,82,108) Transistor		2SA1577			Q 2712	(A,41,17) Transistor		2SA1577		
Q 742	(B,76,110) Transistor		2SC4081			D 610	(B,53,88) Diode		1SS355		
Q 754	(A,75,104) Transistor		2SC4081			D 611	(B,48,84) Diode		DAN202U		
Q 805	(A,122,137) FET		RSQ030P03			D 691	(A,154,151) Diode		HZU8R2(B1)		
Q 806	(A,118,134) Digital Transistor		DTC144EUA			D 692	(A,171,135) Diode		EDZ20(B)		
Q 807	(A,35,80) Transistor		2SB1260			D 693	(A,171,132) Diode		EDZ20(B)		
Q 808	(B,43,85) Chip Transistor		DTC114EUA			D 694	(A,165,134) Diode		EDZ20(B)		
Q 809	(A,88,50) Transistor		2SA1797			D 695	(A,165,131) Diode		EDZ20(B)		E
Q 810	(A,91,57) Chip Transistor		DTC114EUA			D 696	(A,169,135) Diode		EDZ20(B)		
Q 811	(B,12,50) FET		SP8K2			D 697	(A,169,132) Diode		EDZ20(B)		
Q 814	(B,61,44) Chip Transistor		DTC114EUA			D 698	(A,164,134) Diode		EDZ20(B)		
Q 815	(B,43,68) FET		SP8K2			D 699	(A,164,131) Diode		EDZ20(B)		
Q 816	(B,78,67) FET		SP8K2			D 700	(A,167,134) Diode		UDZS6R8(B)		
Q 819	(B,43,48) FET		SP8K2			D 731	(B,142,143) Diode		EDZ6R8(B)		
Q 820	(B,78,49) FET		SP8K2			D 732	(A,133,136) Diode		EDZ6R8(B)		
Q 821	(B,84,149) Transistor		2SA1834F5			D 733	(A,135,136) Diode		EDZ6R8(B)		
Q 822	(B,90,154) Chip Transistor		DTC114EUA			D 734	(A,136,136) Diode		EDZ6R8(B)		
Q 823	(B,110,135) Transistor		2SC4081			D 735	(A,138,136) Diode		EDZ6R8(B)		
Q 824	(B,101,135) Transistor		2SB1184F5			D 736	(B,147,151) Diode		MALS068X		F
Q 825	(B,113,135) Transistor		2SC4081			D 737	(B,147,136) Diode		AVR-M1608C080MTAAB		
Q 828	(B,64,115) Transistor		IMX1			D 738	(B,143,138) Diode		AVR-M1608C080MTAAB		

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

D 739 (B,153,140) Diode AVR-M1608C080MTAAB  
 D 740 (B,150,140) Diode AVR-M1608C080MTAAB  
 D 741 (B,146,151) Diode MALS068X

D 2461 (B,137,85) Diode DAN202U  
 D 2551 (B,6,145) Diode EDZ6R8(B)  
 D 2552 (B,13,144) Diode EDZ6R8(B)

A

D 742 (A,160,140) Diode EDZ6R8(B)  
 D 743 (A,160,139) Diode EDZ6R8(B)  
 D 744 (A,161,138) Diode EDZ6R8(B)  
 D 745 (B,133,143) Diode EDZ6R8(B)  
 D 746 (B,137,142) Diode EDZ6R8(B)

D 2701 (B,53,11) Diode Network DA204U  
 D 2702 (B,61,7) Diode Network DA204U  
 D 2704 (B,46,16) Diode UDZS6R8(B)  
 D 2705 (B,48,23) Diode Network DA204U  
 D 2706 (B,48,28) Diode UMZ6R8EN

D 747 (B,139,140) Diode EDZ6R8(B)  
 D 748 (B,140,143) Diode EDZ6R8(B)  
 D 749 (A,140,136) Diode EDZ6R8(B)  
 D 750 (A,142,137) Diode EDZ6R8(B)  
 D 751 (B,132,143) Diode EDZ6R8(B)

D 2707 (B,37,11) Diode UMZ6R8EN  
 D 2800 (A,162,135) Diode RB500V-40  
 L 1 (B,131,17) Inductor CTF1558  
 L 2 (B,146,18) Inductor CTF1558  
 L 3 (A,157,17) Inductor CTF1410

B

D 752 (A,130,134) Diode UDZS27(B)  
 D 753 (B,146,141) Diode EDZ6R8(B)  
 D 754 (B,142,141) Diode EDZ6R8(B)  
 D 801 (A,62,135) Diode 5KP22A  
 D 802 (B,38,56) Diode RB400D

L 5 (A,138,33) Inductor CTF1556  
 L 6 (A,126,34) Inductor CTF1295  
 L 7 (B,161,54) Inductor CTF1558  
 L 8 (A,147,68) Inductor CTF1556  
 L 101 (A,131,16) Chip Ferrite Bead CTF1557

D 803 (B,38,60) Diode RB400D  
 D 804 (B,73,56) Diode RB400D  
 D 805 (B,73,60) Diode RB400D  
 D 806 (B,8,59) Diode RB400D  
 D 807 (A,39,56) Diode RB060L-40

L 102 (A,133,12) Chip Ferrite Bead CTF1557  
 L 103 (A,138,28) Chip Ferrite Bead CTF1557  
 L 104 (A,147,27) Chip Ferrite Bead CTF1557  
 L 105 (A,155,27) Chip Ferrite Bead CTF1557  
 L 106 (A,164,27) Chip Ferrite Bead CTF1557

C

D 808 (A,39,60) Diode RB060L-40  
 D 809 (A,74,55) Diode RB060L-40  
 D 810 (A,74,60) Diode RB060L-40  
 D 812 (B,38,113) Diode HZU6R8(B2)  
 D 814 (A,106,132) Diode KS926S2

L 107 (A,162,33) Chip Ferrite Bead CTF1557  
 L 108 (A,162,42) Chip Ferrite Bead CTF1557  
 L 109 (A,162,50) Chip Ferrite Bead CTF1557  
 L 110 (B,105,38) Inductor CTF1556  
 L 111 (B,105,22) Inductor CTF1556

D 815 (B,107,129) Diode HZU7R5(B3)  
 D 816 (B,58,118) Diode UDZS18(B)  
 D 817 (B,70,93) Diode UDZS20(B)  
 D 818 (A,18,50) Diode RB060L-40  
 D 820 (B,60,130) Diode S1G-6904G2P

L 112 (B,106,55) Inductor CTF1556  
 L 113 (B,108,60) Chip Ferrite Bead CTF1557  
 L 114 (B,108,55) Chip Ferrite Bead CTF1557  
 L 201 (A,125,29) Inductor CTF1556  
 L 203 (A,85,10) Inductor CTF1556

D

D 821 (B,63,136) Diode 1SS355  
 D 822 (B,62,133) Diode 1SS355  
 D 828 (B,50,133) Diode S1G-6904G2P  
 D 829 (B,56,121) Diode RB500V-40  
 D 830 (B,104,129) Diode RB500V-40

L 204 (A,104,45) Inductor CTF1488  
 L 205 (A,123,21) Inductor CTF1556  
 L 206 (A,88,45) Inductor CTF1556  
 L 207 (A,94,43) Inductor CTF1379  
 L 301 (A,140,19) Chip Ferrite Bead CTF1557

D 831 (B,97,141) Diode RB500V-40  
 D 832 (A,7,67) Diode S1G-6904G2P  
 D 833 (B,56,150) Diode 1SS400  
 D 834 (B,20,82) Diode RB060L-40  
 D 861 (A,40,34) Diode RB060L-40

L 302 (A,144,13) Chip Ferrite Bead CTF1557  
 L 305 (A,102,54) Inductor CTF1556  
 L 312 (A,120,52) Inductor CTF1410  
 L 601 (B,51,98) Inductor CTF1334  
 L 602 (B,43,89) Inductor CTF1334

E

D 901 (B,62,151) Diode DAN202U  
 D 961 (A,159,100) Diode HZU8R2(B3)  
 D 971 (B,12,118) Diode RB751V-40  
 D 972 (B,12,120) Diode RB751V-40  
 D 973 (B,13,115) Diode HZU8R2(B1)

L 603 (B,42,93) Inductor CTF1334  
 L 604 (A,43,88) Inductor CTF1334  
 L 605 (B,155,137) Inductor CTF1334  
 L 606 (A,125,91) Inductor CTF1334  
 L 607 (A,130,86) Inductor CTF1334

D 974 (B,11,122) Diode UDZS10(B)  
 D 2404 (B,108,97) Diode DAN202U  
 D 2405 (B,127,130) Diode DAP202U  
 D 2406 (A,133,122) Diode 1SS355  
 D 2407 (A,133,128) Diode UDZS4R7(B)

L 611 (B,55,109) Inductor CTF1334  
 L 612 (B,57,95) Inductor CTF1334  
 L 613 (B,43,106) Inductor CTF1334  
 L 616 (B,47,106) Inductor CTF1334  
 L 617 (B,48,87) Inductor CTF1334

F

D 2409 (B,22,111) Diode UDZS8R2(B)  
 D 2410 (B,23,119) Diode DAN202U  
 D 2411 (B,26,118) Diode DAN202U  
 D 2412 (B,33,116) Diode DAN202U  
 D 2413 (B,27,122) Diode DAN202U

L 619 (A,128,83) Inductor CTF1306  
 L 620 (A,127,80) Inductor CTF1306  
 L 621 (A,128,80) Inductor CTF1306  
 L 622 (A,125,83) Inductor CTF1384  
 L 623 (A,125,80) Inductor CTF1387

D 2415 (B,129,107) Diode DAN202U  
 D 2416 (B,129,111) Diode DAN202U

L 624 (A,124,83) Inductor CTF1334  
 L 625 (A,97,82) Inductor CTF1306

5				6				7				8			
<u>Circuit Symbol and No.</u>				<u>Part No.</u>				<u>Circuit Symbol and No.</u>				<u>Part No.</u>			
L 627	(A,127,83)	Inductor		CTF1306				L 708	(A,21,112)	Inductor		CTF1306			
L 628	(A,123,83)	Inductor		CTF1306				L 709	(A,22,108)	Inductor		CTF1306			
L 629	(A,124,80)	Inductor		CTF1306											
L 631	(A,121,80)	Inductor		CTF1334				L 710	(A,23,112)	Inductor		CTF1306			A
L 632	(A,120,83)	Inductor		CTF1334				L 711	(A,24,114)	Inductor		CTF1306			
L 633	(A,120,80)	Inductor		CTF1334				L 712	(A,29,122)	Inductor		CTF1629			
L 634	(A,118,83)	Inductor		CTF1334				L 713	(A,103,124)	Inductor		CTF1334			
L 635	(A,121,83)	Inductor		CTF1306				L 714	(A,106,124)	Inductor		CTF1334			
L 636	(A,103,87)	Inductor		CTF1334				L 716	(A,92,127)	Inductor		CTF1306			
L 637	(A,118,80)	Inductor		CTF1306				L 717	(A,101,135)	Inductor		CTF1306			
L 638	(A,117,83)	Inductor		CTF1334				L 718	(B,157,143)	Inductor		CTF1410			
L 640	(A,116,83)	Inductor		CTF1306				L 719	(B,170,145)	Inductor		CTF1334			
L 643	(A,31,122)	Inductor		CTF1306				L 720	(A,92,130)	Inductor		CTF1629			
L 644	(A,114,83)	Inductor		CTF1306				L 721	(A,53,119)	Inductor		CTF1306			
L 645	(A,114,80)	Inductor		CTF1306				L 722	(A,53,122)	Inductor		CTF1306			B
L 646	(A,113,83)	Inductor		CTF1334				L 723	(A,35,113)	Inductor		CTF1306			
L 647	(A,113,80)	Inductor		CTF1334				L 724	(A,39,113)	Inductor		CTF1306			
L 648	(A,111,80)	Inductor		CTF1378				L 725	(A,41,113)	Inductor		CTF1306			
L 649	(A,109,80)	Inductor		CTF1378				L 727	(A,37,113)	Inductor		CTF1306			
L 650	(A,108,80)	Inductor		CTF1378				L 728	(A,44,113)	Inductor		CTF1306			
L 651	(A,104,80)	Inductor		CTF1378				L 729	(A,42,122)	Inductor		CTF1306			
L 652	(A,102,83)	Inductor		CTF1334				L 730	(A,42,113)	Inductor		CTF1306			
L 653	(A,102,80)	Inductor		CTF1467				L 732	(A,157,139)	Inductor		CTF1295			
L 660	(B,24,91)	Inductor		CTF1464				L 733	(A,156,141)	Inductor		CTF1295			
L 662	(B,23,98)	Inductor		CTF1306				L 734	(A,154,143)	Inductor		CTF1295			
L 663	(B,22,97)	Inductor		CTF1306				L 735	(B,142,147)	Inductor		CTF1295			C
L 666	(B,14,87)	Inductor		CTF1306				L 736	(B,140,146)	Inductor		CTF1295			
L 667	(B,14,89)	Inductor		CTF1306				L 737	(B,138,143)	Inductor		CTF1295			
L 668	(B,14,90)	Inductor		CTF1306				L 738	(B,135,143)	Inductor		CTF1295			
L 669	(B,14,92)	Inductor		CTF1306				L 739	(B,135,147)	Inductor		CTF1295			
L 670	(B,15,95)	Inductor		CTF1306				L 740	(B,133,147)	Inductor		CTF1410			
L 674	(B,14,93)	Inductor		CTF1306				L 741	(A,142,139)	Inductor		CTF1295			
L 677	(B,19,95)	Inductor		CTF1473				L 742	(A,139,139)	Inductor		CTF1295			
L 679	(A,27,81)	Inductor		CTF1453				L 743	(B,79,107)	Inductor		CTF1410			
L 680	(A,27,86)	Inductor		CTF1473				L 744	(A,116,80)	Inductor		CTF1334			
L 681	(A,52,116)	Inductor		CTF1306				L 745	(A,148,140)	Inductor		CTF1334			
L 682	(A,52,115)	Inductor		CTF1386				L 746	(A,150,140)	Inductor		CTF1334			D
L 683	(A,49,122)	Inductor		CTF1386				L 748	(A,145,140)	Inductor		CTF1334			
L 684	(A,51,113)	Inductor		CTF1386				L 749	(A,147,140)	Inductor		CTF1334			
L 685	(A,48,113)	Inductor		CTF1386				L 751	(B,85,102)	Inductor		CTF1334			
L 686	(A,79,116)	Inductor		CTF1306				L 753	(B,94,111)	Inductor		LCTAW680J3225			
L 687	(A,76,116)	Inductor		CTF1334				L 754	(B,90,94)	Inductor		CTF1334			
L 688	(A,45,113)	Inductor		CTF1386				L 755	(A,101,121)	Inductor		CTF1334			
L 689	(A,53,121)	Inductor		CTF1306				L 759	(A,110,120)	Inductor		CTF1334			
L 690	(A,53,118)	Inductor		CTF1334				L 760	(B,83,88)	Inductor		CTF1334			
L 691	(A,46,122)	Inductor		CTF1334				L 761	(B,93,118)	Inductor		LCYC2R2K1608			
L 692	(A,91,121)	Inductor		CTF1334				L 762	(B,108,115)	Inductor		LCYC2R2K1608			
L 693	(A,43,122)	Inductor		CTF1384				L 763	(B,94,114)	Inductor		LCYC2R2K1608			E
L 694	(A,91,123)	Inductor		CTF1334				L 765	(A,76,100)	Inductor		LCYC2R2K1608			
L 695	(B,46,120)	Inductor		CTF1463				L 766	(B,113,116)	Inductor		LCYC2R2K1608			
L 696	(A,102,123)	Inductor		CTF1334				L 771	(A,131,138)	Inductor		CTF1453			
L 697	(A,106,123)	Inductor		CTF1334				L 772	(A,128,138)	Inductor		CTF1453			
L 698	(A,40,122)	Inductor		CTF1629				L 793	(A,130,80)	Inductor		CTF1334			
L 700	(A,17,114)	Inductor		CTF1306				L 801	(A,11,53)	Inductor		CTH1254			
L 701	(A,31,110)	Inductor		CTF1629				L 802	(A,15,68)	Inductor		CTH1257			
L 703	(A,17,113)	Inductor		CTF1306				L 803	(A,40,48)	Inductor		CTH1254			
L 704	(A,17,111)	Inductor		CTF1306				L 804	(A,40,67)	Inductor		CTH1255			
L 705	(A,17,110)	Inductor		CTF1306				L 805	(A,74,48)	Inductor		CTH1257			F
L 706	(A,17,108)	Inductor		CTF1306				L 806	(A,75,67)	Inductor		CTH1257			
L 707	(A,20,108)	Inductor		CTF1306				L 807	(A,87,147)	Inductor		CTH1262			
								L 808	(A,26,65)	Inductor		CTH1253			

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

L 809 (A,62,63) Inductor CTH1253  
L 810 (A,89,135) Choke Coil 100  $\mu$ H CTH1315

EF731 (B,147,144) EMI Filter CCG1082  
EF732 (B,145,148) EMI Filter CCG1082

A L 811 (B,57,134) Inductor CTF1556  
L 812 (A,65,71) Inductor CTF1453  
L 815 (B,60,136) Inductor CTF1556  
L 817 (A,39,79) Inductor LCKAW1R0J2520  
L 818 (B,26,82) Inductor LCYA220J2520

EF733 (B,140,136) EMI Filter CCG1067  
EF734 (B,141,134) EMI Filter CCG1067  
EF735 (B,150,138) EMI Filter CCG1067  
EF736 (B,152,138) EMI Filter CCG1067  
EF801 (A,96,139) EMI Filter CCG1172

L 901 (B,60,148) Inductor LCTC2R2K1608  
L 982 (B,73,32) Inductor CTF1463  
L 983 (B,62,32) Inductor CTF1463  
L 984 (A,91,79) Inductor CTF1463  
L 985 (A,91,86) Inductor CTF1463

EF802 (A,77,143) EMI Filter CCG1172  
EF803 (A,79,152) EMI Filter CCG1172

**RESISTORS**

L 999 (B,26,94) Inductor CTF1463  
B L 2402 (B,115,91) Inductor CTF1306  
L 2404 (A,147,104) Inductor LCTAW2R2J2520  
L 2551 (B,12,141) Inductor CTF1379  
L 2554 (B,35,110) Inductor CTF1334

R 1 (B,130,34) RS1/16S0R0J  
R 3 (B,130,37) RS1/16S0R0J  
R 5 (A,114,59) RS1/16S473J  
R 6 (A,120,63) RS1/16S473J  
R 7 (A,156,48) RS1/16S220J

L 2555 (B,37,110) Inductor CTF1334  
L 2701 (B,48,16) Chip Ferrite Bead CTF1399  
L 2702 (B,38,21) Inductor CTF1334  
L 2703 (B,41,88) Inductor CTF1334  
L 2706 (B,49,12) Inductor CTF1306

R 8 (A,119,70) RS1/16S473J  
R 10 (A,151,70) RS1/16S104J  
R 11 (A,154,70) RAB4C473J  
R 12 (A,144,67) RS1/16S105J  
R 13 (A,142,67) RS1/16S151J

L 2707 (B,50,20) Inductor CTF1306  
L 2709 (B,55,28) Inductor CTF1306  
C L 2710 (B,54,25) Inductor CTF1306  
L 2711 (B,48,13) Inductor CTF1306  
L 2712 (B,35,16) Inductor CTF1306

R 14 (B,146,34) RS1/16S0R0J  
R 16 (B,146,37) RS1/16S0R0J  
R 19 (A,120,68) RS1/16S473J  
R 20 (A,134,69) RS1/16S101J  
R 21 (A,138,66) RS1/16S101J

L 2713 (B,34,11) Inductor CTF1306  
L 2714 (A,41,21) Inductor CTF1334  
L 2715 (A,38,21) Inductor CTF1334  
L 2716 (B,52,22) Inductor CTF1334  
L 2717 (B,58,10) Inductor CTF1306

R 22 (A,136,69) RS1/16S101J  
R 23 (B,136,59) RS1/16S105J  
R 24 (B,136,62) RS1/16S151J  
R 25 (A,133,69) RS1/16S101J  
R 26 (A,137,69) RS1/16S101J

L 2718 (B,39,15) Inductor CTF1306  
L 2800 (B,156,133) Inductor CTF1305  
TH601 (A,137,88) Thermistor CCX1056  
D X 1 (A,142,72) Radiator 30.000 MHz CSS1633  
X 2 (B,134,61) Radiator 33.000 MHz CSS1634

R 27 (A,134,66) RS1/16S101J  
R 28 (A,136,66) RS1/16S101J  
R 29 (A,132,66) RS1/16S101J  
R 30 (A,131,66) RS1/16S101J  
R 31 (A,131,69) RS1/16S101J

X 3 (B,160,49) Radiator 33.868 8 MHz CSS1551  
X 202 (A,126,21) Radiator 14.318 18 MHz CSS1632  
X 601 (A,46,88) Radiator 10.0 MHz CSS1577  
VR741 (A,78,111) Semi-fixed 2.2 kohm(B) CCP1392  
FU691 (B,165,147) Fuse 1 A CEK1254

R 32 (B,136,53) RS1/16S473J  
R 33 (A,130,69) RS1/16S473J  
R 34 (B,157,50) RS1/16S223J  
R 35 (A,126,48) RS1/16S104J  
R 36 (A,125,59) RS1/16S101J

FU801 (A,63,118) Fuse 1.25 A CEK1255  
FU802 (A,8,61) Fuse 4 A CEK1260  
FU803 (A,69,119) Fuse 400 mA CEK1250  
FU804 (A,24,72) Fuse 2.5 A CEK1258  
E FU805 (A,61,71) Fuse 2.5 A CEK1258

R 37 (A,125,60) RS1/16S101J  
R 38 (A,125,61) RS1/16S101J  
R 39 (A,125,63) RS1/16S101J  
R 40 (A,125,46) RS1/16S470J  
R 45 (B,129,55) RS1/16S104J

FU806 (A,58,119) Fuse 1 A CEK1254  
FU807 (A,41,84) Fuse 1 A CEK1254  
FU808 (A,11,109) Fuse 4 A CEK1260  
FU809 (A,125,135) Fuse 2 A CEK1257  
FU810 (A,103,140) Fuse 1.25 A CEK1255

R 46 (B,130,61) RS1/16S104J  
R 47 (B,159,47) RS1/16S104J  
R 48 (B,158,65) RS1/16S104J  
R 49 (B,160,65) RS1/16S104J  
R 50 (B,161,65) RS1/16S104J

FU811 (A,83,72) Fuse 2 A CEK1257  
FU812 (A,117,141) Fuse 250 mA CEK1248  
FU813 (A,83,47) Fuse 2.5 A CEK1258  
FU814 (B,61,107) Fuse 250 mA CEK1248  
F FU821 (A,19,79) Fuse 3.15 A CEK1259

R 52 (B,83,26) RS1/16SS101J  
R 53 (B,83,27) RS1/16SS101J  
R 54 (B,83,28) RS1/16SS101J  
R 55 (B,83,30) RS1/16SS101J  
R 57 (B,83,29) RS1/16SS101J

FU822 (A,64,80) Fuse 1 A CEK1254  
FU823 (A,48,71) Fuse 2 A CEK1257  
FU971 (A,10,120) Fuse 400 mA CEK1250

R 59 (B,82,31) RS1/16SS101J  
R 60 (B,83,32) RS1/16SS101J  
R 61 (A,59,35) RS1/16SS0R0J

5		6		7		8		
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>		
R 62	(B,83,34)	RS1/16SS101J		R 178	(A,120,67)	RS1/16S473J		
R 63	(B,83,33)	RS1/16SS101J		R 180	(A,148,66)	RS1/16S101J		
R 64	(B,85,38)	RS1/16SS101J		R 181	(A,118,56)	RS1/16S473J		A
R 65	(B,83,36)	RS1/16SS101J		R 182	(A,120,56)	RS1/16S473J		
R 66	(A,58,41)	RS1/16SS101J		R 183	(A,118,62)	RS1/16S473J		
R 67	(A,59,41)	RS1/16SS101J		R 184	(A,118,59)	RS1/16S473J		
R 68	(A,60,41)	RS1/16SS101J		R 185	(A,115,62)	RS1/16S473J		
R 69	(A,61,41)	RS1/16SS101J		R 186	(A,116,59)	RS1/16S473J		
R 70	(A,62,41)	RS1/16SS101J		R 187	(A,115,59)	RS1/16S473J		
R 71	(A,63,41)	RS1/16SS101J		R 188	(A,110,68)	RS1/16S473J		
R 72	(A,64,41)	RS1/16SS101J		R 189	(A,113,68)	RS1/16S473J		
R 73	(A,65,41)	RS1/16SS101J		R 190	(A,111,68)	RS1/16S473J		
R 74	(A,66,41)	RS1/16SS101J		R 191	(B,129,64)	RS1/16S473J		
R 75	(A,67,41)	RS1/16SS101J		R 192	(A,116,62)	RS1/16S473J		B
R 76	(A,68,41)	RS1/16SS101J		R 193	(A,126,65)	RS1/16S473J		
R 77	(A,69,41)	RS1/16SS101J		R 194	(A,149,68)	RS1/16S390J		
R 78	(A,70,41)	RS1/16SS101J		R 196	(A,115,68)	RS1/16S473J		
R 79	(A,71,41)	RS1/16SS101J		R 198	(A,127,64)	RS1/16S473J		
R 80	(A,72,41)	RS1/16SS101J		R 201	(A,123,41)	RN1/16SE1502D		
R 81	(A,73,41)	RS1/16SS101J		R 202	(A,123,39)	RN1/16SE1202D		
R 82	(A,74,41)	RS1/16SS101J		R 210	(A,102,42)	RS1/16S104J		
R 84	(B,83,37)	RS1/16SS562J		R 211	(A,100,42)	RS1/16S104J		
R 85	(B,84,31)	RS1/16SS103J		R 212	(A,93,43)	RS1/16S104J		
R 87	(B,159,63)	RS1/16S104J		R 213	(A,92,43)	RS1/16S104J		
R 88	(B,131,48)	RS1/16S104J		R 217	(A,124,36)	RS1/16S272J		C
R 89	(B,135,46)	RS1/16S0R0J		R 220	(A,125,8)	RS1/16S223J		
R 90	(B,135,45)	RS1/16S0R0J		R 221	(A,125,26)	RS1/16S105J		
R 93	(B,134,44)	RS1/16S153J		R 222	(A,125,17)	RS1/16S151J		
R 94	(B,137,44)	RS1/16S153J		R 224	(A,82,16)	RS1/16S0R0J		
R 95	(B,133,49)	RS1/16S153J		R 225	(A,120,9)	RS1/16S104J		
R 96	(B,133,48)	RS1/16S153J		R 226	(A,122,9)	RS1/16S104J		
R 97	(A,122,56)	RS1/16S473J		R 227	(A,82,19)	RS1/16S104J		
R 98	(A,158,61)	RS1/16S473J		R 228	(A,84,19)	RS1/16S104J		
R 101	(B,105,36)	RS1/16S473J		R 229	(B,118,16)	RS1/16S560J		
R 102	(B,105,21)	RS1/16S473J		R 230	(A,84,13)	RS1/16S104J		
R 103	(B,104,59)	RS1/16S473J		R 232	(A,85,13)	RS1/16S104J		D
R 104	(A,135,22)	RS1/16S220J		R 237	(B,116,16)	RS1/16S104J		
R 151	(B,130,32)	RS1/16S0R0J		R 238	(B,117,16)	RS1/16S330J		
R 152	(B,162,34)	RS1/16S0R0J		R 240	(A,118,8)	RS1/16S104J		
R 153	(B,145,44)	RS1/16S471J		R 301	(A,139,19)	RS1/16S123J		
R 154	(A,119,56)	RS1/16S473J		R 302	(A,139,21)	RS1/16S103J		
R 155	(A,116,56)	RS1/16S473J		R 303	(A,140,16)	RS1/16S473J		
R 156	(A,109,66)	RS1/16S473J		R 320	(A,110,57)	RS1/16S103J		
R 158	(A,121,52)	RS1/16S473J		R 321	(A,109,59)	RS1/16S0R0J		
R 159	(B,129,57)	RS1/16S473J		R 329	(A,113,50)	RS1/16SS821J		
R 160	(A,122,61)	RS1/16S473J		R 330	(A,113,53)	RS1/16SS221J		
R 161	(A,109,68)	RS1/16S103J		R 331	(A,113,52)	RS1/16SS221J		E
R 162	(B,134,57)	RS1/16S473J		R 332	(A,113,51)	RS1/16SS472J		
R 163	(A,125,58)	RS1/16S560J		R 349	(B,159,44)	RS1/16S473J		
R 164	(A,115,66)	RS1/16S473J		R 350	(B,151,43)	RS1/16S473J		
R 165	(A,125,69)	RS1/16S473J		R 356	(A,113,56)	RS1/16S0R0J		
R 166	(A,107,68)	RS1/16S473J		R 360	(B,100,60)	RS1/16SS473J		
R 167	(A,120,64)	RS1/16S473J		R 361	(B,100,47)	RS1/16SS473J		
R 170	(A,110,66)	RS1/16S473J		R 362	(B,100,59)	RS1/16SS473J		
R 171	(A,113,66)	RS1/16S473J		R 363	(B,100,48)	RS1/16SS473J		
R 172	(A,111,66)	RS1/16S473J		R 364	(B,100,52)	RS1/16SS473J		
R 174	(A,125,67)	RS1/16S473J		R 365	(B,100,51)	RS1/16SS473J		F
R 175	(A,125,68)	RS1/16S473J		R 366	(B,100,49)	RS1/16SS473J		
R 176	(A,125,56)	RS1/16S0R0J		R 367	(B,102,49)	RS1/16SS473J		
R 177	(A,120,65)	RS1/16S473J		R 368	(B,102,51)	RS1/16SS473J		

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

	R 369	(B,100,58)	RS1/16SS473J	R 674	(B,39,101)	RS1/16SS102J
	R 370	(A,92,72)	RS1/8S0R0J	R 675	(A,32,99)	RS1/16SS681J
				R 676	(A,35,90)	RS1/16SS681J
A	R 601	(A,137,87)	RS1/16S1803D			
	R 602	(B,50,100)	RS1/16SS473J	R 677	(B,15,86)	RS1/16S104J
	R 603	(A,130,91)	RS1/16SS473J	R 681	(A,117,94)	RS1/16S101J
	R 604	(A,33,94)	RS1/16SS0R0J	R 682	(A,119,94)	RS1/10S471J
	R 605	(A,31,95)	RS1/16SS102J	R 683	(A,120,97)	RS1/16S103J
				R 687	(A,23,121)	RS1/16S470J
	R 606	(A,37,88)	RAB4C681J			
	R 607	(A,125,85)	RS1/16SS473J	R 691	(B,160,148)	RS1/10S221J
	R 608	(B,154,135)	RS1/16S563J	R 692	(B,157,148)	RS1/10S221J
	R 609	(B,153,132)	RS1/16S104J	R 693	(A,171,138)	RS1/16S681J
	R 610	(B,150,132)	RS1/16S473J	R 694	(A,165,138)	RS1/16S681J
				R 695	(A,168,138)	RS1/16S681J
	R 611	(B,153,135)	RS1/16S472J			
B	R 612	(A,31,93)	RS1/16SS473J	R 696	(A,164,138)	RS1/16S681J
	R 614	(A,33,102)	RS1/16SS473J	R 697	(A,167,138)	RS1/16S681J
	R 616	(A,45,109)	RS1/16SS681J	R 699	(B,20,101)	RS1/16S0R0J
	R 617	(A,41,87)	RS1/16S0R0J	R 701	(A,121,122)	RS1/16S820J
				R 702	(A,23,108)	RS1/16S103J
	R 618	(B,39,99)	RS1/16SS473J	R 703	(A,25,108)	RS1/16S103J
	R 620	(B,48,97)	RS1/16SS473J			
	R 621	(B,62,91)	RS1/16SS473J	R 730	(B,73,101)	RS1/16S0R0J
	R 622	(A,55,109)	RS1/16SS473J	R 732	(B,143,143)	RS1/16S102J
	R 623	(A,47,109)	RAB4C681J	R 733	(B,145,143)	RS1/16S102J
				R 734	(A,138,139)	RS1/16S102J
	R 625	(A,33,106)	RS1/16S473J	R 735	(A,136,139)	RS1/16S102J
	R 626	(A,51,110)	RAB4C681J			
C	R 627	(A,59,94)	RS1/16SS473J	R 736	(A,135,139)	RS1/16S0R0J
	R 628	(A,34,99) (EW5)	RS1/16SS473J	R 737	(A,133,139)	RS1/16S102J
	R 629	(A,57,95)	RS1/16SS473J	R 738	(B,138,146)	RS1/16S681J
	R 630	(A,33,100) (UC)	RS1/16SS473J	R 739	(B,137,147)	RS1/16S681J
				R 740	(B,144,134)	RS1/16S101J
	R 631	(A,32,95)	RS1/16SS102J			
	R 632	(A,35,106)	RS1/16SS473J	R 741	(B,143,135)	RS1/16S101J
	R 633	(A,56,90)	RS1/16SS473J	R 742	(B,79,109)	RS1/16S102J
	R 636	(B,55,113)	RS1/16S473J	R 743	(A,78,108)	RS1/16S362J
	R 640	(B,51,87)	RS1/16SS101J	R 744	(A,80,114)	RS1/16S512J
				R 745	(B,77,113)	RS1/16S471J
	R 641	(B,51,88)	RS1/16SS473J			
	R 642	(A,54,106)	RS1/16SS681J	R 746	(B,80,111)	RS1/16S0R0J
D	R 643	(A,56,99)	RS1/16SS681J	R 751	(B,101,93)	RS1/16SS101J
	R 644	(B,48,98)	RS1/16SS681J	R 752	(B,103,94)	RS1/16SS101J
	R 645	(A,56,96)	RS1/16SS681J	R 753	(B,105,96)	RS1/16SS101J
				R 754	(B,96,94)	RS1/16S222J
	R 646	(A,56,93)	RAB4C681J			
	R 647	(A,54,90)	RS1/16SS681J	R 755	(B,89,96)	RS1/16S222J
	R 648	(A,53,88)	RS1/16SS681J	R 756	(B,120,133)	RS1/16S750J
	R 649	(A,52,88)	RS1/16SS681J	R 757	(B,83,98)	RS1/16S101J
	R 651	(B,55,105)	RS1/16S681J	R 760	(B,114,129)	RS1/16S4701D
				R 761	(B,82,94)	RS1/16S1000D
	R 653	(A,137,84)	RS1/16S2003F			
	R 654	(A,33,105)	RS1/16SS473J	R 762	(B,95,108)	RN1/16SE2002D
E	R 657	(A,53,84)	RS1/16S104J	R 763	(B,92,108)	RS1/16S473J
	R 658	(A,34,96)	RS1/16SS101J	R 764	(B,102,108)	RS1/16S75R0D
	R 659	(A,50,88)	RAB4C681J	R 765	(B,101,108)	RS1/16S75R0D
				R 766	(B,99,108)	RS1/16S75R0D
	R 660	(A,42,86)	RS1/16SS104J			
	R 661	(A,42,88)	RS1/16SS681J	R 767	(B,98,108)	RS1/16S750J
	R 662	(A,25,104)	RS1/16S103J	R 768	(B,117,127)	RS1/16S4701D
	R 664	(B,38,102)	RS1/16SS681J	R 769	(B,105,118)	RS1/16S105J
	R 665	(A,37,109)	RAB4C681J	R 770	(B,86,122)	RS1/16S101J
				R 771	(B,112,124)	RS1/16S101J
	R 666	(A,41,109)	RAB4C681J			
	R 667	(A,43,109)	RS1/16SS681J	R 772	(B,102,114)	RS1/16S105J
	R 668	(A,23,126)	RS1/16S104J	R 773	(A,105,98)	RS1/16S750J
F	R 670	(B,39,105)	RS1/16SS103J	R 774	(B,95,114)	RS1/16S101J
	R 671	(B,39,102)	RS1/16SS103J	R 776	(A,122,121)	RS1/16S750J
				R 781	(A,106,80)	RS1/16S0R0J
	R 672	(A,34,109)	RS1/16SS681J			
	R 673	(B,39,104)	RS1/16SS102J	R 782	(B,83,117)	RS1/16S105J

5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
R 783	(B,91,118)	RS1/16S105J		R 869	(B,60,57)	RS1/16S1003D	
R 784	(B,101,112)	RS1/16S105J		R 870	(B,61,42)	RS1/16S473J	
R 785	(B,81,117)	RS1/16S105J		R 873	(B,41,56)	RS1/10S150J	
R 786	(B,114,127)	RS1/16S4701D		R 874	(B,29,51)	RS1/16S224J	A
R 788	(B,117,125)	RS1/16S4701D		R 875	(B,29,65)	RS1/16S224J	
R 789	(B,120,120)	RS1/16S102J		R 876	(B,41,60)	RS1/10S150J	
R 790	(B,115,116)	RS1/16S563J		R 877	(B,76,57)	RS1/10S150J	
R 791	(B,118,118)	RS1/16S473J		R 878	(B,65,50)	RS1/16S224J	
R 792	(B,92,115)	RS1/16S105J		R 879	(B,65,64)	RS1/16S224J	
R 794	(A,73,106)	RS1/16S563J		R 880	(B,76,60)	RS1/10S150J	
R 795	(A,75,101)	RS1/16SS102J		R 884	(B,90,147)	RS1/4S561J	
R 796	(A,72,103)	RS1/16S563J		R 885	(B,90,150)	RS1/4S561J	
R 800	(B,94,118)	RS1/16S105J		R 886	(B,84,144)	RS1/16S103J	
R 803	(B,7,51)	RS1/16S5600D		R 891	(B,108,136)	RS1/16S1101D	
R 813	(B,58,107)	RS1/16S0R0J		R 892	(B,110,140)	RS1/16S6800D	B
R 814	(A,80,95)	RS1/16S0R0J		R 893	(B,111,130)	RS1/8S102J	
R 819	(B,39,85)	RS1/8S181J		R 894	(B,115,140)	RS1/16S471J	
R 820	(B,39,82)	RS1/8S181J		R 895	(B,111,132)	RS1/8S102J	
R 821	(A,30,81)	RS1/16S103J		R 896	(B,107,133)	RS1/16S103J	
R 824	(B,59,34)	RS1/16S0R0J		R 901	(B,147,122)	RS1/16S224J	
R 825	(A,88,55)	RS1/10S360J		R 902	(B,37,121)	RS1/16S473J	
R 826	(A,88,57)	RS1/10S360J		R 903	(B,39,115)	RS1/16S223J	
R 827	(A,88,53)	RS1/16S103J		R 904	(B,37,115)	RS1/16S223J	
R 829	(A,119,138)	RS1/16S475J		R 905	(B,26,88)	RS1/10S472J	
R 832	(B,7,54)	RS1/16S8201D		R 906	(B,29,84)	RS1/16S223J	C
R 833	(B,7,56)	RS1/16S1501D		R 907	(B,62,155)	RS1/16S102J	
R 834	(B,8,69)	RS1/16S681J		R 908	(B,90,144)	RS1/4S471J	
R 835	(B,13,70)	RS1/16S154J		R 909	(B,96,127)	RS1/4S471J	
R 836	(B,29,49)	RS1/16S3300D		R 910	(B,89,134)	RS1/16S153J	
R 837	(B,26,48)	RS1/16S101J		R 911	(B,61,119)	RS1/16S474J	
R 838	(B,26,49)	RS1/16S3001D		R 912	(B,118,140)	RS1/16S472J	
R 839	(B,24,48)	RS1/16S1001D		R 913	(B,116,134)	RS1/16S102J	
R 840	(B,25,51)	RS1/16S102J		R 914	(B,61,112)	RS1/16S473J	
R 841	(B,25,53)	RS1/16S104J		R 915	(B,65,118)	RS1/16S473J	
R 842	(B,29,67)	RS1/16S6800D		R 916	(B,63,118)	RS1/16S473J	
R 843	(B,26,67)	RS1/16S5601D		R 917	(B,65,98)	RS1/16S0R0J	D
R 844	(B,24,68)	RS1/16S1001D		R 918	(B,66,99)	RS1/16S471J	
R 845	(B,26,68)	RS1/16S101J		R 919	(A,112,137)	RS1/16S475J	
R 846	(B,25,65)	RS1/16S102J		R 920	(B,67,132)	RS1/16S101J	
R 847	(B,65,47)	RS1/16S5600D		R 921	(B,61,116)	RS1/16S103J	
R 848	(B,61,47)	RS1/16S2401D		R 922	(B,59,150)	RS1/16S153J	
R 849	(B,61,49)	RS1/16S101J		R 924	(B,65,152)	RS1/16S472J	
R 850	(B,59,48)	RS1/16S1601D		R 925	(A,63,107)	RS1/16S102J	
R 851	(B,60,50)	RS1/16S152J		R 926	(A,66,108)	RS1/16S103J	
R 852	(B,65,69)	RS1/16S1200D		R 927	(B,67,131)	RS1/10S471J	
R 853	(B,61,69)	RS1/16S1001D		R 928	(B,66,134)	RS1/16S103J	
R 854	(B,60,53)	RS1/16S104J		R 929	(B,63,135)	RS1/10S103J	E
R 855	(B,61,67)	RS1/16S101J		R 930	(B,63,149)	RS1/16S472J	
R 856	(B,59,68)	RS1/16S1001D		R 936	(B,65,90)	RS1/16S820J	
R 857	(B,60,66)	RS1/16S152J		R 937	(B,68,90)	RS1/16S820J	
R 858	(B,20,66)	RS1/16S100J		R 938	(B,113,137)	RS1/16S561J	
R 859	(B,14,57)	RS1/16S184J		R 939	(B,7,48)	RS1/16S0R0J	
R 861	(B,8,46)	RS1/10S100J		R 940	(B,29,46)	RS1/16S0R0J	
R 862	(B,40,26)	RS1/16S1002D		R 941	(B,32,68)	RS1/16S0R0J	
R 863	(B,41,35)	RS1/16S102J		R 942	(B,65,46)	RS1/16S0R0J	
R 864	(B,42,28)	RS1/16S6202D		R 943	(B,67,68)	RS1/16S0R0J	
R 865	(B,27,70)	RS1/16S100J		R 944	(B,25,63)	RS1/16S104J	F
R 866	(B,25,58)	RS1/16S1003D		R 945	(B,60,63)	RS1/16S104J	
R 867	(B,64,44)	RS1/16S473J		R 946	(B,36,115)	RS1/16S4701D	
R 868	(B,66,71)	RS1/16S100J		R 952	(A,77,94)	RS1/16S473J	

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

A	R 954	(B,56,148)	RS1/16S103J	R 2476	(B,138,114)	RS1/16S104J
	R 961	(A,157,97)	RS1/16S223J	R 2478	(B,141,101)	RS1/16S472J
	R 962	(A,154,97)	RS1/16S103J	R 2479	(B,141,103)	RS1/16S472J
	R 963	(A,161,100)	RS1/16S104J	R 2480	(B,144,118)	RS1/16S472J
	R 964	(A,164,98)	RS1/16S223J	R 2481	(B,141,115)	RS1/16S472J
	R 971	(B,16,121)	RS1/16S824J	R 2482	(B,141,106)	RS1/16S472J
	R 972	(B,16,125)	RS1/16S102J	R 2483	(B,141,112)	RS1/16S472J
	R 973	(B,19,119)	RS1/16S472J	R 2484	(B,144,102)	RS1/16S472J
	R 974	(B,16,116)	RS1/8S471J	R 2485	(B,144,115)	RS1/16S472J
	R 975	(B,16,114)	RS1/8S751J	R 2486	(B,147,102)	RS1/16S472J
	R 977	(B,30,125)	RS1/16S103J	R 2487	(B,147,115)	RS1/16S472J
	R 978	(B,30,123)	RS1/16S103J	R 2488	(B,35,122)	RS1/16S471J
B	R 983	(A,12,78)	RS1/10S102J	R 2489	(B,25,139)	RS1/16S471J
	R 985	(A,80,91)	RS1/10S102J	R 2492	(B,23,109)	RS1/16S223J
	R 986	(A,136,132)	RS1/10S102J	R 2493	(B,23,113)	RS1/16S473J
	R 987	(B,85,45)	RS1/10S102J	R 2496	(B,28,113)	RS1/16S103J
	R 989	(B,85,71)	RS1/10S102J	R 2497	(B,22,116)	RS1/4S102J
	R 990	(B,72,92)	RS1/16S0R0J	R 2499	(B,21,122)	RS1/16S103J
	R 2403	(A,133,123)	RS1/16S102J	R 2500	(B,23,126)	RS1/16S103J
	R 2404	(B,127,135)	RS1/16S473J	R 2501	(B,18,124)	RS1/16S221J
	R 2407	(B,127,125)	RS1/16SS473J	R 2502	(B,21,125)	RS1/16S102J
	R 2409	(B,129,134)	RS1/16S473J	R 2503	(A,50,134)	RS1/16S101J
	R 2410	(B,130,127)	RS1/16SS473J	R 2551	(A,13,138)	RS1/16S221J
	R 2411	(B,132,135)	RS1/16S333J	R 2552	(A,13,141)	RS1/16S621J
C	R 2416	(B,131,125)	RS1/16S333J	R 2553	(B,6,143)	RS1/16S473J
	R 2417	(B,108,103)	RS1/16S104J	R 2554	(B,9,144)	RS1/16S121J
	R 2418	(B,108,106)	RS1/16S102J	R 2556	(B,136,119)	RS1/16S473J
	R 2419	(B,133,123)	RS1/16SS473J	R 2557	(B,136,120)	RS1/16S473J
	R 2420	(B,131,137)	RS1/16S473J	R 2558	(B,129,119)	RS1/16SS473J
	R 2421	(B,109,109)	RS1/16S473J	R 2566	(A,127,104)	RS1/16SS101J
	R 2422	(B,134,137)	RS1/16S473J	R 2567	(A,127,105)	RS1/16SS101J
	R 2423	(B,134,123)	RS1/16SS473J	R 2568	(A,127,106)	RS1/16SS101J
	R 2424	(B,111,110)	RS1/16S473J	R 2569	(B,132,120)	RS1/16S102J
	R 2425	(B,135,137)	RS1/16S473J	R 2570	(B,129,116)	RS1/16S0R0J
	R 2426	(B,135,123)	RS1/16SS473J	R 2571	(B,144,104)	RS1/16S224J
	R 2428	(B,115,113)	RS1/16S0R0J	R 2572	(B,144,114)	RS1/16S224J
D	R 2432	(B,118,105)	RS1/16S473J	R 2602	(A,160,117)	RS1/8S0R0J
	R 2433	(B,114,104)	RS1/16S473J	R 2701	(B,46,13)	RS1/16S222J
	R 2438	(A,145,111)	RS1/16S181J	R 2702	(B,58,8)	RS1/16S222J
	R 2440	(A,143,108)	RS1/16S181J	R 2706	(B,49,18)	RS1/16S222J
	R 2441	(A,144,106)	RS1/16S223J	R 2707	(B,52,28)	RS1/16S102J
	R 2444	(A,144,112)	RS1/16S223J	R 2708	(B,51,26)	RS1/16S102J
	R 2445	(A,144,104)	RS1/16S102J	R 2710	(A,45,20)	RS1/16S102J
	R 2446	(A,143,114)	RS1/16S102J	R 2711	(A,46,22)	RS1/16S102J
	R 2447	(B,133,100)	RS1/16S0R0J	R 2712	(B,50,23)	RS1/16S102J
	R 2448	(A,126,98)	RS1/16S0R0J	R 2713	(B,35,14)	RS1/16S222J
	R 2449	(A,126,101)	RS1/16S0R0J	R 2714	(B,35,11)	RS1/16S222J
	R 2451	(B,150,92)	RS1/16S152J	R 2715	(B,38,15)	RS1/16S222J
E	R 2452	(A,126,113)	RS1/16S0R0J	R 2723	(A,38,15)	RS1/16S223J
	R 2453	(A,128,116)	RS1/16S0R0J	R 2724	(A,38,13)	RS1/16S472J
	R 2454	(B,132,115)	RS1/16S0R0J	R 2725	(A,42,13)	RS1/16S103J
	R 2459	(B,40,123)	RS1/16S471J	R 2726	(A,41,15)	RS1/16S223J
	R 2460	(B,153,91)	RS1/16S104J	R 2729	(A,40,13)	RS1/16S472J
	R 2461	(B,145,84)	RS1/16S1202D	R 2730	(B,8,51)	RS1/16S331J
	R 2462	(B,144,88)	RS1/16S1003D	R 2731	(A,85,110)	RS1/16S0R0J
	R 2465	(B,26,141)	RS1/16SS471J			
F	R 2472	(B,135,104)	RS1/16S821J			
	R 2473	(B,136,114)	RS1/16S821J			
	R 2474	(B,151,81)	RS1/16S101J			
	R 2475	(B,138,104)	RS1/16S104J			

**CAPACITORS**

C 1	(B,131,19)	CKSRYB104K50
C 2	(B,130,22)	CKSRYB104K50



5			6			7			8		
<u>Circuit Symbol and No.</u>			<u>Part No.</u>			<u>Circuit Symbol and No.</u>			<u>Part No.</u>		
C 3	(B,130,25)		CKSRYB104K50			C 78	(B,145,21)		CKSRYB103K50		
C 4	(B,130,30)		CKSRYB104K50			C 79	(B,162,30)		CKSRYB103K50		
C 5	(B,130,42)		CKSRYB104K50			C 80	(B,154,17)		CKSRYB103K50		A
C 6	(A,151,37)		CKSRYB104K50			C 81	(B,146,40)		CKSRYB224K10		
C 7	(A,156,45)		CKSRYB104K50			C 82	(B,162,23)		CKSRYB103K50		
C 8	(A,155,50)		CKSRYB104K50			C 96	(B,163,23)		CKSRYB224K10		
C 9	(A,155,53)		CKSRYB104K50			C 97	(B,163,28)		CKSRYB224K10		
C 10	(A,156,56)		CKSRYB104K50			C 98	(B,163,30)		CKSRYB224K10		
C 11	(A,156,61)		CKSRYB104K50			C 101	(A,130,18)		CKSRYB104K50		
C 12	(B,135,18)	10 $\mu$ F	CCG1171			C 102	(A,134,12)		CKSRYB104K50		
C 13	(B,145,26)		CKSRYB104K50			C 103	(A,138,26)		CKSRYB104K50		
C 14	(B,145,29)		CKSRYB104K50			C 104	(A,147,30)		CKSRYB104K50		
C 15	(A,146,36)		CKSRYB104K50			C 105	(A,155,30)		CKSRYB104K50		
C 16	(A,144,36)		CKSRYB104K50			C 106	(A,164,30)		CKSRYB104K50		B
C 17	(A,146,67)		CKSRYB104K50			C 107	(A,160,33)		CKSRYB104K50		
C 18	(A,144,69)		CCSRCH100D50			C 108	(A,160,42)		CKSRYB104K50		
C 19	(A,142,69)		CCSRCH100D50			C 109	(A,160,50)		CKSRYB104K50		
C 20	(B,148,18)		CKSRYB104K50			C 110	(B,105,43)	10 $\mu$ F	CCG1171		
C 21	(B,147,22)		CKSRYB104K50			C 111	(B,105,40)		CKSRYB104K50		
C 22	(B,147,25)		CKSRYB104K50			C 112	(B,105,35)		CKSRYF224Z16		
C 23	(B,147,30)		CKSRYB104K50			C 113	(B,105,27)	10 $\mu$ F	CCG1171		
C 24	(B,146,41)		CKSRYB104K50			C 114	(B,105,24)		CKSRYB104K50		
C 25	(A,140,37)		CKSRYB104K50			C 115	(B,105,19)		CKSRYF224Z16		
C 26	(A,140,66)		CKSRYB104K50			C 116	(B,118,65)		CKSRYF104Z25		
C 27	(B,151,18)	10 $\mu$ F	CCG1171			C 117	(B,106,52)	10 $\mu$ F	CCG1171		C
C 28	(B,156,15)		CKSRYB104K50			C 118	(B,106,50)		CKSRYB104K50		
C 29	(B,162,28)		CKSRYB104K50			C 119	(B,118,49)		CKSRYF104Z25		
C 30	(A,157,18)		CKSRYF104Z25			C 120	(B,108,62)		CKSRYF104Z25		
C 31	(B,131,59)		CCSRCH8R0D50			C 121	(B,108,57)		CKSRYF104Z25		
C 32	(B,131,63)		CCSRCH8R0D50			C 122	(B,103,39)		CKSRYF104Z25		
C 33	(A,135,37)		CKSRYB104K50			C 123	(B,105,55)		CKSRYF103Z50		
C 35	(A,135,66)		CKSRYB104K50			C 124	(B,129,40)		CCSRCH101J50		
C 36	(A,129,65)		CKSRYB104K50			C 125	(A,165,33)		CKSRYF104Z25		
C 38	(A,134,33)	10 $\mu$ F	CCG1171			C 126	(A,165,50)		CKSRYF104Z25		
C 39	(A,126,41)		CKSRYB104K50			C 201	(A,123,38)		CKSRYB104K50		
C 40	(A,126,43)		CKSRYB104K50			C 202	(A,118,43)		CKSRYB104K50		D
C 41	(A,126,51)		CKSRYB104K50			C 203	(A,116,43)		CKSRYB104K50		
C 42	(B,140,44)		CKSRYB104K50			C 204	(A,121,37)		CKSRYB104K50		
C 44	(B,136,56)		CKSRYB104K50			C 205	(A,110,43)		CKSRYB104K50		
C 47	(B,144,66)		CKSRYB104K50			C 206	(A,105,42)		CKSRYB104K50		
C 49	(B,143,44)		CKSRYB104K50			C 207	(A,99,42)		CKSRYB104K50		
C 51	(A,148,36)		CKSRYB224K10			C 208	(A,95,43)		CKSRYB104K50		
C 54	(B,83,38)		CCSRCH121J50			C 209	(A,86,37)		CKSRYB104K50		
C 55	(B,147,44)		CKSRYB104K50			C 211	(A,121,35)		CKSRYB104K50		
C 57	(B,151,44)		CKSRYB104K50			C 213	(A,121,32)		CKSRYB104K50		
C 60	(B,152,66)		CKSRYB104K50			C 214	(A,123,32)		CKSRYB104K50		
C 63	(B,157,47)		CKSRYB104K50			C 215	(A,86,36)		CKSRYB104K50		E
C 64	(B,157,52)		CKSRYB104K50			C 216	(A,86,32)		CKSRYB104K50		
C 66	(B,157,55)		CKSRYB104K50			C 217	(A,86,31)		CKSRYB104K50		
C 67	(B,159,55)	10 $\mu$ F	CCG1171			C 220	(A,124,33)	10 $\mu$ F	CCG1171		
C 68	(A,130,36)	22 $\mu$ F	CCG1178			C 221	(A,121,29)		CKSRYB104K50		
C 69	(A,130,34)	22 $\mu$ F	CCG1178			C 222	(A,121,27)		CKSRYB104K50		
C 70	(A,129,30)	22 $\mu$ F	CCG1178			C 223	(A,123,9)		CKSRYB224K10		
C 71	(B,128,61)		CKSRYF103Z50			C 224	(A,121,24)		CKSRYB104K50		
C 72	(B,162,52)		CKSRYF103Z50			C 225	(A,123,29)		CKSRYB104K50		
C 73	(B,161,52)		CKSRYF104Z25			C 227	(A,86,29)		CKSRYB104K50		
C 74	(B,157,62)		CKSRYF104Z25			C 228	(A,86,25)		CKSRYB104K50		F
C 75	(A,155,18)		CKSRYF104Z25			C 230	(A,126,26)		CCSRCH150J50		
C 76	(B,130,27)		CKSRYB103K50			C 231	(A,126,17)		CCSRCH120J50		
C 77	(B,138,18)		CKSRYB103K50			C 232	(A,121,22)		CKSRYB104K50		

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

C 233 (A,121,19) CKSRYB104K50  
 C 234 (A,86,20) CKSRYB104K50  
 C 235 (A,87,19) CKSRYB104K50

C 626 (B,53,85) CKSSYB103K16  
 C 630 (A,32,97) CCSRCH101J50  
 C 636 (B,22,91) CKSRYF104Z25

A

C 237 (A,122,16) CKSRYB104K50  
 C 238 (A,122,13) CKSRYB104K50  
 C 239 (A,87,17) CKSRYB104K50  
 C 240 (A,87,15) CKSRYB104K50  
 C 241 (A,87,13) CKSRYB104K50

C 643 (B,17,93) CKSRYF104Z25  
 C 644 (B,42,121) CKSRYF104Z25  
 C 645 (A,36,122) 10  $\mu$ F CCG1236  
 C 647 (A,32,112) 10  $\mu$ F CCG1236  
 C 648 (A,27,121) CKSRYF104Z25

C 242 (A,115,8) CKSRYB104K50  
 C 243 (A,112,8) CKSRYB104K50  
 C 244 (A,108,8) CKSRYB104K50  
 C 245 (A,105,8) CKSRYB104K50  
 C 246 (A,102,8) CKSRYB104K50

C 670 (A,37,85) CKSSYB104K10  
 C 671 (A,34,98) CKSSYB104K10  
 C 672 (A,34,95) CKSSYB104K10  
 C 673 (B,39,106) CKSSYB104K10  
 C 675 (A,137,85) CKSSYB104K10

B

C 247 (A,97,8) CKSRYB104K50  
 C 248 (A,92,8) CKSRYB104K50  
 C 249 (A,87,9) 10  $\mu$ F CCG1171  
 C 250 (A,107,43) 10  $\mu$ F CCG1171  
 C 251 (A,123,26) 10  $\mu$ F CCG1171

C 679 (A,27,89) CKSRYF104Z25  
 C 680 (A,25,88) CKSRYB104K50  
 C 681 (A,24,80) CKSRYF104Z25  
 C 682 (A,24,82) CKSRYB104K50  
 C 690 (B,154,143) CKSQYB475K6R3

C 252 (A,88,43) 10  $\mu$ F CCG1171  
 C 253 (A,124,14) CKSRYF104Z25  
 C 255 (A,86,34) CKSRYB103K50  
 C 256 (A,86,28) CKSRYB103K50  
 C 257 (A,86,26) CKSRYB103K50

C 691 (A,156,151) CKSRYB102K50  
 C 692 (B,158,141) CKSRYB104K50  
 C 693 (B,157,145) CKSQYB105K16  
 C 694 (B,156,141) CKSQYB105K16  
 C 695 (B,160,146) CKSQYB105K16

C

C 258 (A,86,23) CKSRYB103K50  
 C 259 (A,86,22) CKSRYB103K50  
 C 260 (A,87,16) CKSRYB103K50  
 C 261 (A,84,8) CKSRYB103K50  
 C 262 (A,82,8) CKSRYB103K50

C 696 (B,171,145) CKSRYB102K50  
 C 697 (B,159,134) CKSQYB105K16  
 C 698 (B,162,134) CKSQYB105K16  
 C 699 (B,168,133) CKSRYB102K50  
 C 700 (B,165,133) CKSRYB102K50

C 301 (A,140,21) CKSRYF104Z25  
 C 302 (A,148,22) CKSRYB334K10  
 C 303 (A,141,13) CKSRYF104Z25  
 C 306 (A,119,49) CKSRYF104Z25  
 C 323 (A,106,57) 10  $\mu$ F CCG1171

C 701 (B,167,133) CKSRYB102K50  
 C 702 (B,164,133) CKSRYB102K50  
 C 704 (B,84,112) CKSRYB104K50  
 C 705 (B,91,115) CKSRYB104K50  
 C 706 (A,124,122) CCSRCH102J50

D

C 328 (A,103,51) CKSRYB104K50  
 C 329 (A,102,51) 10  $\mu$ F CCG1171  
 C 341 (A,159,19) CCSRCH101J50  
 C 342 (A,139,14) CKSRYF104Z25  
 C 344 (B,145,12) CKSRYF103Z50

C 707 (B,120,128) CKSYB106K6R3  
 C 709 (B,114,125) CCSRCK1R0C50  
 C 711 (B,120,118) CKSRYB105K10  
 C 712 (B,113,118) CKSRYB104K50  
 C 713 (B,111,120) CKSYF106Z10

C 345 (B,144,12) CKSRYF104Z25  
 C 346 (B,130,12) CKSRYF103Z50  
 C 347 (B,118,10) CKSRYF103Z50  
 C 348 (B,117,9) CKSRYF104Z25  
 C 349 (B,96,8) CKSRYF103Z50

C 732 (B,153,141) CKSRYB102K50  
 C 733 (B,150,141) CKSRYB102K50  
 C 734 (B,147,135) CKSRYB102K50  
 C 735 (B,140,138) CKSRYB102K50  
 C 736 (B,132,147) CKSRYF104Z25

E

C 601 (B,53,98) CKSSYB104K10  
 C 602 (A,34,97) CKSSYB104K10  
 C 603 (B,43,91) CKSSYB104K10  
 C 604 (B,45,91) CKSSYB104K10  
 C 605 (B,43,94) CKSSYB104K10

C 737 (A,132,132) CKSRYF104Z25  
 C 738 (A,128,134) CKSRYF104Z25  
 C 739 (B,131,152) CKSRYF104Z25  
 C 740 (B,133,152) CKSRYF104Z25  
 C 741 (B,137,151) CKSRYF104Z25

C 606 (A,34,93) CKSRYB104K50  
 C 607 (A,36,85) CKSSYB104K10  
 C 609 (B,147,132) CKSRYB104K50  
 C 610 (A,123,89) CKSSYB104K10  
 C 611 (B,45,93) CKSSYB104K10

C 747 (A,79,104) CEVW100M16  
 C 748 (B,85,89) CKSSYB103K16  
 C 749 (B,86,92) CKSQYB225K10  
 C 750 (B,77,107) CKSRYB102K50  
 C 751 (B,103,96) CKSRYB104K50

F

C 612 (A,132,87) CKSSYB104K10  
 C 613 (B,53,107) CKSSYB104K10  
 C 614 (B,58,93) CKSSYB104K10  
 C 617 (B,55,89) CKSQYB225K10  
 C 620 (B,45,104) CKSRYF104Z25

C 752 (B,101,95) CKSRYB104K50  
 C 753 (B,99,95) CKSRYB104K50  
 C 754 (B,98,93) CCSRCH5R0C50  
 C 755 (B,93,95) CCSRCH470J50  
 C 756 (B,94,95) CKSRYF104Z25

C 623 (B,48,88) CKSSYB104K10  
 C 624 (B,49,104) CKSRYF104Z25

C 757 (A,91,96) CEVQW470M16  
 C 758 (B,91,91) CKSRYB105K6R3

5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
C 761	(B,93,108)	CCSRCH220J50		C 830	(B,65,67)	CKSRYB153K50	
C 762	(A,86,96)	CEVW100M16		C 831	(B,62,65)	CCSRCH101J50	
C 763	(B,90,108)	CKSRYF104Z25		C 832	(B,60,64)	CKSRYB104K50	A
C 764	(A,100,105)	CEVW221M4		C 833	(B,12,70)	CCSRCH330J50	
C 765	(A,92,105)	CEVW221M4		C 834	(B,15,70)	CKSRYB105K10	
C 766	(A,85,105)	CEVW221M4		C 835	(B,19,70) 4.7 $\mu$ F	CCG1111	
C 767	(A,110,104)	CEVW221M4		C 836	(B,14,58)	CKSRYF104Z25	
C 768	(B,96,108)	CKSRYB105K6R3		C 837	(B,8,63) 4.7 $\mu$ F	CCG1111	
C 769	(A,97,96)	CEVQW470M16		C 838	(B,11,58)	CKSRYF474Z16	
C 770	(B,93,93)	CKSRYB104K50		C 839	(A,14,45) 220 $\mu$ F/10 V	CCH1409	
C 771	(A,101,120)	CKSRYB104K50		C 840	(A,16,61) 10 $\mu$ F	CCG1223	
C 772	(A,97,116)	CEVW101M16		C 841	(B,24,71) 4.7 $\mu$ F	CCG1111	
C 773	(B,83,121)	CKSQYB225K10		C 842	(B,25,55)	CKSRYB103K50	
C 774	(B,91,121)	CKSQYB225K10		C 843	(B,25,56) 47 pF	CCG1231	B
C 775	(A,94,120)	CKSRYB103K50		C 844	(B,25,60)	CKSRYB105K10	
C 776	(B,104,108)	CKSQYB225K10		C 845	(B,25,61)	CKSRYB103K50	
C 777	(A,85,116)	CEVW101M6R3		C 846	(B,63,71) 4.7 $\mu$ F	CCG1111	
C 778	(A,91,114)	CEVW220M6R3		C 847	(B,60,54)	CKSRYB103K50	
C 779	(B,82,113)	CKSYF106Z10		C 848	(B,60,56) 47 pF	CCG1231	
C 780	(B,86,109)	CKSQYB225K10		C 849	(B,60,59)	CKSRYB105K10	
C 782	(A,107,121)	CKSRYB104K50		C 850	(B,60,62)	CKSRYB103K50	
C 783	(A,105,116)	CEVW101M16		C 851	(A,19,56) 10 $\mu$ F	CCG1223	
C 784	(A,104,121)	CKSRYB103K50		C 852	(B,17,48) 4.7 $\mu$ F	CCG1111	
C 785	(B,103,119)	CKSQYB225K10		C 853	(B,33,52)	CKSRYF474Z16	
C 786	(A,119,116)	CEVW101M6R3		C 854	(B,29,52)	CKSRYF104Z25	C
C 787	(A,113,116)	CEVW220M6R3		C 855	(B,29,64)	CKSRYF104Z25	
C 788	(B,87,101)	CKSRYB104K50		C 856	(B,34,63)	CKSRYF474Z16	
C 790	(B,77,116)	CKSRYB104K50		C 857	(B,25,46)	CKSYB475K16	
C 791	(B,76,114)	CKSYF106Z10		C 858	(B,68,52)	CKSRYF474Z16	
C 792	(B,99,121)	CKSRYB104K50		C 859	(B,65,52)	CKSRYF104Z25	
C 793	(B,102,123)	CKSYF106Z10		C 860	(B,65,66)	CKSRYF104Z25	
C 794	(B,106,120)	CKSYF106Z10		C 861	(B,68,64)	CKSRYF474Z16	
C 795	(A,79,99)	CKSQYB225K10		C 862	(B,68,44)	CKSYB475K16	
C 796	(A,74,100)	CKSQYB225K10		C 863	(B,77,123)	CKSRYF104Z25	
C 797	(B,117,132)	CKSYB106K6R3		C 864	(B,43,31)	CKSRYB103K50	
C 798	(B,108,118)	CKSRYB104K50		C 865	(A,26,53) 10 $\mu$ F	CCG1223	D
C 799	(A,75,107)	CCSRCH100D50		C 866	(A,39,28)	CEVLW470M16	
C 800	(B,96,118)	CKSRYB104K50		C 867	(B,41,32)	CKSQYB105K16	
C 803	(B,24,85)	CKSQYB225K10		C 868	(B,37,49) 4.7 $\mu$ F	CCG1111	
C 809	(A,122,134)	CKSRYB103K50		C 869	(A,48,53) 330 $\mu$ F/6.3 V	CCH1366	
C 810	(A,121,128)	CEVW101M16		C 870	(B,38,68) 4.7 $\mu$ F	CCG1111	
C 811	(A,68,69)	CKSRYB104K50		C 871	(A,48,62) 220 $\mu$ F/10 V	CCH1409	
C 812	(A,42,80)	CKSRYB103K50		C 872	(A,60,55) 10 $\mu$ F	CCG1223	
C 813	(A,48,81)	CEVW101M16		C 873	(A,60,51) 10 $\mu$ F	CCG1223	
C 814	(A,31,87)	CEVW101M16		C 874	(A,28,100)	CEVW100M16	
C 815	(A,91,53)	CKSRYB103K50		C 875	(B,71,67) 4.7 $\mu$ F	CCG1111	
C 816	(A,96,53)	CEVW101M16		C 876	(A,83,53) 330 $\mu$ F/6.3 V	CCH1366	E
C 817	(B,8,54)	CKSRYB273K25		C 877	(B,71,50) 4.7 $\mu$ F	CCG1111	
C 818	(B,11,70)	CKSRYB473K50		C 878	(A,84,65) 330 $\mu$ F/6.3 V	CCH1366	
C 819	(B,8,67)	CCSRCH101J50		C 879	(A,78,127) 220 $\mu$ F/25 V	CCH1356(P30)	
C 820	(B,7,67)	CKSRYB104K50		C 880	(B,86,141)	CKSQYB104K16	
C 821	(B,29,48)	CKSRYB473K50		C 881	(A,81,136) 2 200 $\mu$ F/16 V	CCH1405(P30)	
C 822	(B,27,51)	CCSRCH101J50		C 882	(A,71,113)	CEVW101M16	
C 823	(B,25,52)	CKSRYB104K50		C 883	(B,33,89)	CKSRYB103K50	
C 824	(B,29,68)	CKSRYB223K50		C 884	(A,72,82)	CEVW101M6R3	
C 825	(B,27,65)	CCSRCH101J50		C 885	(A,69,91)	CKSRYF104Z25	
C 826	(B,25,64)	CKSRYB104K50		C 886	(A,27,94)	CEVW100M16	F
C 827	(B,65,49)	CKSRYB153K50		C 887	(A,76,88)	CKSRYF104Z25	
C 828	(B,62,51)	CCSRCH101J50		C 888	(B,108,138)	CKSRYB103K50	
C 829	(B,60,52)	CKSRYB104K50		C 889	(B,113,140)	CKSRYB103K50	

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

C 890 (B,117,140) CKSRYF104Z25  
 C 891 (B,147,120) CKSRYB104K50  
 C 892 (B,68,98) CKSRYB103K50

C 2421 (B,110,105) CKSRYB103K50  
 C 2422 (B,138,137) CCSRCH151J50  
 C 2423 (B,138,123) CCSRCH151J50

A

C 893 (A,59,103) CEVW101M16  
 C 894 (B,59,104) CKSRYB103K50  
 C 895 (B,30,89) CKSRYB104K50  
 C 896 (A,117,137) CKSRYB103K50  
 C 897 (A,114,127) CEVW101M16

C 2424 (B,111,107) CCSRCH221J50  
 C 2425 (B,135,135) CCSRCH330J50  
 C 2426 (B,134,125) CCSRCH330J50  
 C 2428 (B,118,111) CKSRYF104Z25  
 C 2429 (B,114,102) CKSQYB105K16

C 898 (A,83,122) CKSQYB104K16  
 C 899 (A,87,127) 220  $\mu$ F/25 V CCH1356(P30)  
 C 900 (B,89,132) CKSQYB104K16  
 C 901 (B,106,140) CKSRYB103K50  
 C 903 (A,150,128) 10 000  $\mu$ F/16 V CCH1664(P30)

C 2431 (B,111,112) CCSRCH471J50  
 C 2432 (B,136,130) CKSRYF104Z25  
 C 2433 (A,136,127) CEVQW220M16  
 C 2434 (B,137,134) CKSRYB105K6R3  
 C 2435 (B,137,126) CKSRYB105K6R3

B

C 904 (B,59,151) CKSRYB104K50  
 C 905 (A,67,103) CEVW101M16  
 C 906 (A,57,110) CKSRYF104Z25  
 C 907 (A,57,113) CKSRYB473K50  
 C 908 (B,60,133) CKSRYF103Z50

C 2436 (B,118,113) CKSRYB105K6R3  
 C 2437 (A,150,105) CKSRYB102K50  
 C 2441 (A,143,104) CKSRYB105K6R3  
 C 2442 (B,137,125) CKSRYB105K6R3  
 C 2443 (B,137,132) CKSRYB105K6R3

C 909 (A,101,137) CKSRYF104Z25  
 C 910 (B,58,134) CKSRYB104K50  
 C 914 (A,81,147) CKSRYF104Z25  
 C 916 (B,53,131) CKSQYF104Z25  
 C 919 (B,68,93) CKSRYB104K50

C 2444 (A,143,110) CKSRYB105K6R3  
 C 2445 (A,146,97) CEVW470M16  
 C 2446 (A,143,102) CKSRYB105K6R3  
 C 2447 (A,147,102) CKSRYB104K50  
 C 2448 (A,142,112) CKSRYB105K6R3

C

C 920 (B,120,139) CKSRYF104Z25  
 C 950 (B,17,55) 4.7  $\mu$ F CCG1111  
 C 951 (B,17,51) 4.7  $\mu$ F CCG1111  
 C 953 (B,33,49) 4.7  $\mu$ F CCG1111  
 C 954 (A,31,50) 10  $\mu$ F CCG1223

C 2453 (A,140,97) CKSYB475K16  
 C 2456 (A,140,116) CKSYB475K16  
 C 2457 (A,137,97) CKSYB475K16  
 C 2458 (A,137,116) CKSYB475K16  
 C 2459 (A,134,97) CKSYB475K16

C 955 (B,34,68) 4.7  $\mu$ F CCG1111  
 C 956 (A,31,56) 10  $\mu$ F CCG1223  
 C 957 (A,64,54) 10  $\mu$ F CCG1223  
 C 958 (A,64,49) 4.7  $\mu$ F CCG1111  
 C 959 (A,67,54) 10  $\mu$ F CCG1223

C 2460 (A,134,116) CKSYB475K16  
 C 2461 (B,155,91) CKSRYB332K50  
 C 2462 (A,132,97) CKSYB475K16  
 C 2463 (A,132,116) CKSYB475K16  
 C 2464 (B,152,91) CKSRYB474K10

D

C 960 (A,67,49) 4.7  $\mu$ F CCG1111  
 C 961 (A,80,149) CKSRYF104Z25  
 C 963 (B,53,148) CKSRYB104K50  
 C 964 (B,53,150) CKSRYB105K10  
 C 971 (B,15,122) CKSRYB222K50

C 2465 (B,149,89) CKSRYB104K50  
 C 2466 (A,126,109) CKSRYB104K50  
 C 2467 (A,126,110) CKSRYB104K50  
 C 2468 (A,126,112) CCSRCH100D50  
 C 2469 (B,149,86) CKSRYB104K50

C 972 (B,16,124) CKSRYB474K10  
 C 973 (B,7,122) CKSQYB105K16  
 C 974 (A,12,113) CKSQYB103K50  
 C 975 (A,17,123) CEVQW470M16  
 C 983 (B,74,34) CKSRYB103K50

C 2470 (A,126,95) CCSRCH100D50  
 C 2471 (B,145,82) CKSRYB104K50  
 C 2472 (A,129,115) CCSRCH100D50  
 C 2473 (B,147,86) CKSRYB104K50  
 C 2474 (A,126,96) CCSRCH100D50

E

C 984 (B,72,34) CKSRYF104Z25  
 C 985 (B,63,34) CKSRYB103K50  
 C 986 (B,61,34) CKSRYF104Z25  
 C 987 (A,91,81) CKSRYB103K50  
 C 988 (A,92,81) CKSRYF104Z25

C 2475 (A,128,118) CCSRCH100D50  
 C 2476 (A,126,99) CCSRCH100D50  
 C 2479 (A,156,88) CEVW101M10  
 C 2480 (A,122,102) CEVW100M16  
 C 2481 (A,149,88) CEVW101M10

C 989 (A,91,84) CKSRYB103K50  
 C 990 (A,92,84) CKSRYF104Z25  
 C 998 (B,26,93) CKSRYF104Z25  
 C 999 (B,29,92) CKSRYB103K50  
 C 2404 (B,115,89) CKSRYB104K50

C 2482 (B,154,81) CKSRYB222K50  
 C 2483 (B,137,100) 10  $\mu$ F CCG1138  
 C 2484 (B,138,103) CKSRYB105K6R3  
 C 2485 (B,140,118) 10  $\mu$ F CCG1138  
 C 2486 (B,138,115) CKSRYB105K6R3

F

C 2407 (B,112,92) CKSRYB104K50  
 C 2412 (A,128,127) CEVW101M6R3  
 C 2413 (B,129,136) CKSRYB105K10  
 C 2414 (B,128,124) CKSRYB105K10  
 C 2418 (B,107,105) CKSRYB105K6R3

C 2487 (B,141,104) CCSRCH101J50  
 C 2488 (B,141,114) CCSRCH101J50  
 C 2489 (B,131,100) CKSRYB104K50  
 C 2490 (B,147,104) CCSRCH101J50  
 C 2491 (B,147,114) CCSRCH101J50

C 2419 (B,131,136) CCSRCH470J50  
 C 2420 (B,131,124) CCSRCH470J50

C 2492 (B,149,108) CKSRYB104K50  
 C 2493 (A,153,104) CEVW100M16

5			6			7			8		
<u>Circuit Symbol and No.</u>			<u>Part No.</u>			<u>Circuit Symbol and No.</u>			<u>Part No.</u>		
C 2494	(B,33,124)		CKSQYB105K16			D 4079	(A,151,4)	LED	CL-197HB1-D(CDE)		
C 2495	(B,29,141)		CKSQYB105K16			D 4080	(A,163,4)	LED	CL-197HB1-D(CDE)		
C 2496	(B,33,126)		CKSRYB105K10			L 4001	(B,94,14)	Inductor	CTF1473		A
C 2497	(B,32,142)		CKSRYB105K10			S 4031	(A,156,19)	Push Switch	CSG1155		
C 2498	(B,28,139)		CKSQYB105K16			S 4032	(A,14,11)	Encoder	CSD1140		
C 2499	(B,37,124)		CKSQYB105K16			S 4033	(A,160,6)	Push Switch	CSG1155		
C 2500	(B,31,139)		CKSRYB105K10			S 4034	(A,132,6)	Push Switch	CSG1155		
C 2501	(B,37,126)		CKSRYB105K10			S 4035	(A,106,6)	Push Switch	CSG1155		
C 2503	(A,64,125)	2 200 $\mu$ F/16 V	CCH1405(P30)			S 4036	(A,154,6)	Push Switch	CSG1155		
C 2504	(A,70,131)	10 $\mu$ F	CCG1138			S 4037	(A,119,6)	Push Switch	CSG1155		
C 2505	(B,41,139)		CKSRYB104K50			LCD4001	(A,30,15)	LCD	CAW1950		
C 2506	(A,17,129)		CEVW100M16			<b>RESISTORS</b>					
C 2507	(B,37,141)		CKSYB475K16			R 4001	(B,102,6)		RS1/16S221J		B
C 2508	(B,37,139)		CKSYB475K16			R 4002	(B,102,5)		RS1/16S221J		
C 2509	(A,51,130)		CEVW330M25			R 4003	(B,89,4)		RS1/16S221J		
C 2510	(A,45,137)		CKSRYB473K50			R 4004	(B,89,6)		RS1/16S473J		
C 2511	(B,30,117)		CKSSYF104Z16			R 4005	(B,86,8)		RS1/16S393J		
C 2551	(B,10,140)		CKSRYB104K50			R 4021	(B,97,10)		RS1/16S101J		
C 2552	(A,10,141)		CCSRCH150J50			R 4022	(B,96,13)		RS1/16S470J		
C 2556	(B,130,119)		CKSSYB104K10			R 4031	(B,33,8)		RS1/16S472J		
C 2557	(B,129,118)		CKSSYB103K16			R 4033	(B,158,15)		RS1/16S0R0J		
C 2558	(B,136,117)		CKSRYB103K50			R 4034	(B,158,10)		RS1/16S392J		
C 2707	(B,40,23)		CKSRYF104Z25			R 4035	(B,29,11)		RS1/16S123J		
C 2710	(A,38,20)		CKSRYB104K50			R 4036	(B,152,7)		RS1/16S122J		C
C 2711	(B,39,88)		CKSRYF104Z25			R 4037	(B,154,6)		RS1/16S222J		
C 2713	(A,41,20)		CKSRYB104K50			R 4041	(A,94,14)		RS1/16S391J		
						R 4042	(B,97,14)		RS1/16S391J		
						R 4051	(B,17,7)		RS1/16S271J		
						R 4052	(B,17,10)		RS1/16S271J		
						R 4053	(B,15,19)		RS1/16S271J		
						R 4054	(B,18,16)		RS1/16S271J		
						R 4055	(B,151,9)		RS1/16S101J		
						R 4056	(B,154,11)		RS1/16S221J		
						R 4057	(B,158,8)		RS1/16S101J		
						R 4058	(B,156,9)		RS1/16S221J		D
						R 4071	(B,10,7)		RS1/16S151J		
						R 4072	(B,13,8)		RS1/16S101J		
						R 4073	(B,12,19)		RS1/16S151J		
						R 4074	(B,16,16)		RS1/16S101J		
						R 4075	(B,111,7)		RS1/16S151J		
						R 4076	(B,111,10)		RS1/16S101J		
						R 4077	(B,156,19)		RS1/16S151J		
						R 4078	(B,156,18)		RS1/16S101J		
						R 4079	(B,158,14)		RS1/16S151J		
						R 4080	(B,156,14)		RS1/16S101J		
						R 4093	(B,156,6)		RS1/16S0R0J		E
						R 4094	(B,152,4)		RS1/16S0R0J		
						<b>CAPACITORS</b>					
						C 4001	(B,88,8)		CCSRCH102J25		
						C 4002	(B,90,7)		CKSRYB104K50		
						C 4003	(B,90,9)		CKSRYB104K50		
						C 4004	(B,87,10)	10 $\mu$ F	CCG1171		
						C 4021	(B,100,9)	10 $\mu$ F	CCG1171		
						C 4041	(B,94,9)		CKSRYB104K50		
						C 4071	(B,19,5)		CKSRYB104K50		F
						C 4072	(B,10,4)		CKSRYB104K50		
						C 4073	(B,26,14)		CKSRYB104K50		
						C 4074	(B,10,19)		CKSRYB104K50		

**B**  
**Unit Number :**  
**Unit Name : Keyboard Unit**

#### **MISCELLANEOUS**

IC 4001	(B,79,9)	IC	LC75836WS
IC 4021	(A,100,10)	IC	SBX3050-01
Q 4041	(B,100,13)	Digital Transistor	DTC143EUA
D 4001	(A,143,6)	Diode	MALS068X
D 4002	(A,138,8)	Diode	MALS068X
D 4003	(A,142,8)	Diode	MALS068X
D 4021	(A,126,8)	Diode	UDZS5R6(B)
D 4041	(B,107,6)	Diode	DAN202U
D 4042	(A,94,9)	White LED	NESW505C-5273
D 4051	(A,21,4)	LED	CL-195SR-CD
D 4052	(A,6,5)	LED	CL-195SR-CD
D 4053	(A,22,17)	LED	CL-195SR-CD
D 4054	(A,6,18)	LED	CL-195SR-CD
D 4055	(A,110,6)	LED	CL-195SR-CD
D 4056	(A,122,6)	LED	CL-195SR-CD
D 4057	(A,135,6)	LED	CL-195SR-CD
D 4058	(A,146,20)	LED	CL-195SR-CD
D 4059	(A,151,6)	LED	CL-195SR-CD
D 4060	(A,163,7)	LED	CL-195SR-CD
D 4071	(A,21,3)	LED	CL-197HB1-D(CDE)
D 4072	(A,4,5)	LED	CL-197HB1-D(CDE)
D 4073	(A,23,17)	LED	CL-197HB1-D(CDE)
D 4074	(A,5,18)	LED	CL-197HB1-D(CDE)
D 4075	(A,110,4)	LED	CL-197HB1-D(CDE)
D 4076	(A,122,4)	LED	CL-197HB1-D(CDE)
D 4077	(A,135,4)	LED	CL-197HB1-D(CDE)
D 4078	(A,146,19)	LED	CL-197HB1-D(CDE)

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

X 502 (B,36,26) Radiator 20.00 MHz CSS1549  
 X 532 (A,58,15) Radiator 4.332 MHz(EW5) CSS1550

F 401 (A,23,23) Filter CTF1548

**RESISTORS**

R 401 (B,11,26) RS1/16SS472J  
 R 402 (B,12,30) RS1/16SS472J  
 R 403 (B,14,32) RS1/16SS122J  
 R 404 (B,14,30) RS1/16SS622J  
 R 405 (A,23,26) RS1/16SS100J  
  
 R 406 (B,27,29) RS1/16S271J  
 R 407 (B,25,18) RS1/16S2R2J  
 R 441 (A,30,27) RN1/16SC10R0D  
 R 442 (B,33,24) RN1/16SE1501D  
 R 443 (B,31,24) RN1/16SE2402D  
  
 R 444 (B,31,26) RN1/16SE3302D  
 R 445 (B,32,33) RN1/16SE4702D  
 R 446 (B,30,32) RN1/16SE4702D  
 R 447 (A,33,25) RS1/16S432J  
 R 448 (B,32,30) RN1/16SE1002D  
  
 R 449 (B,33,32) RN1/16SE2202D  
 R 450 (B,32,32) RN1/16SE3302D  
 R 451 (A,29,32) RS1/16S103J  
 R 452 (B,34,27) RS1/16SS102J  
 R 454 (B,34,26) RS1/16SS102J  
  
 R 460 (B,22,13) RS1/16S0R0J  
 R 461 (A,37,5) RS1/16SS102J  
 R 462 (A,38,9) RS1/16SS102J  
 R 463 (B,36,12) RAB4CQ102J  
 R 464 (A,35,12) RAB4CQ333J  
  
 R 465 (A,39,8) RS1/16SS102J  
 R 468 (A,58,8) (EW5) RS1/16SS471J  
 R 469 (A,58,6) (EW5) RAB4CQ471J  
 R 470 (B,35,7) RAB4CQ471J  
 R 471 (B,35,4) RAB4CQ104J  
  
 R 477 (B,31,17) RS1/16SS222J  
 R 478 (B,30,16) RS1/16SS222J  
 R 479 (B,28,15) RS1/16SS222J  
 R 480 (B,29,17) RS1/16SS332J  
 R 481 (B,30,17) RS1/16SS332J  
  
 R 482 (A,38,6) RS1/16SS223J  
 R 483 (A,38,5) RS1/16SS473J  
 R 501 (B,39,27) RS1/16SS0R0J  
 R 502 (B,38,29) RS1/16SS102J  
 R 503 (B,39,26) RS1/16SS154J  
  
 R 508 (B,60,14) (UC) RS1/16SS103J  
 (B,60,14) (EW5) RS1/16SS472J  
 R 509 (B,34,15) RS1/16SS473J  
 R 510 (A,38,7) RS1/16SS102J  
 R 511 (A,34,19) RS1/16SS103J  
 R 512 (B,39,30) RS1/16SS473J  
  
 R 513 (B,60,16) RS1/16SS103J  
 R 514 (B,39,29) RS1/16SS473J  
 R 515 (A,30,12) RS1/16SS473J  
 R 517 (B,39,22) RS1/16SS103J  
 R 519 (B,39,21) RS1/16SS473J  
  
 R 521 (B,37,29) RS1/16SS473J  
 R 532 (A,43,10) (EW5) RS1/16SS104J  
 R 533 (A,40,18) (UC) RS1/16SS103J

C 4075 (A,112,8) CKSRYB104K50  
 C 4076 (A,128,5) CKSRYB104K50  
 A C 4077 (A,138,5) CKSRYB104K50  
 C 4078 (B,151,15) CKSRYB104K50  
 C 4079 (A,148,5) CKSRYB104K50

C 4080 (B,159,12) CKSRYB104K50

**C****Unit Number : CWX3533(UC)****Unit Number : CWX3534(EW5)****Unit Name : GPS Unit****MISCELLANEOUS**

IC 401 (A,25,16) IC UPC2749T  
 IC 402 (B,20,27) IC UPB1027GS  
 IC 441 (A,33,30) IC NJM2100V  
 IC 461 (B,29,10) IC ADC12H034CIMSAS1  
 IC 501 (B,50,25) IC PD3390A

IC 502 (B,48,9) IC(UC) PEH100A8  
 (B,48,9) IC(EW5) PEH101A8  
 IC 503 (A,50,29) IC M5M5V216ATP-70HI  
 IC 504 (A,31,14) IC MAX6364PUT29  
 C IC 532 (A,47,15) IC(EW5) LC72720YVSS1  
 Q 441 (A,32,22) Transistor 2SB1132

D 401 (B,11,27) Diode 1SV314  
 D 501 (B,35,30) Diode RB751V-40  
 L 401 (B,12,29) Inductor CTF1549  
 L 402 (B,26,22) Inductor LCYC1R2K1608  
 L 403 (B,27,26) Inductor LCYC1R2K1608

L 404 (A,21,22) Inductor LCSA3N3R1608  
 L 405 (B,13,24) Inductor LCYB22NJ1608  
 L 406 (B,15,20) Inductor LCYB22NJ1608  
 L 407 (A,19,32) Inductor CTF1410  
 D L 408 (B,26,31) Inductor(UC) CTF1556  
 (B,26,31) Inductor(EW5) CTF1410

L 409 (B,19,12) Inductor LCYC1R0K2125  
 L 410 (B,26,17) Inductor CTF1547  
 L 412 (A,25,27) Inductor CTF1547  
 L 413 (A,25,26) Inductor CTF1547  
 L 414 (A,25,32) Inductor CTF1547

L 415 (A,26,29) Inductor CTF1547  
 L 416 (A,27,28) Inductor CTF1547  
 L 417 (B,25,20) Inductor CTF1547  
 L 418 (A,14,33) Inductor CTF1410  
 E L 441 (B,32,20) Inductor CTF1410

L 442 (A,29,25) Inductor CTF1410  
 L 461 (A,29,9) Inductor CTF1410  
 L 462 (A,31,8) Inductor CTF1410  
 L 467 (B,33,17) Inductor CTF1547  
 L 468 (B,32,17) Inductor CTF1547

L 469 (A,32,11) Inductor CTF1410  
 L 501 (B,38,17) Inductor CTF1410  
 L 502 (B,36,32) Inductor CTF1410  
 L 503 (B,59,6) Inductor CTF1410  
 L 504 (A,38,33) Inductor CTF1410

F L 531 (A,53,17) Inductor CTF1410  
 X 401 (A,14,27) TCXO 16.368 MHz CWX2381  
 X 501 (A,38,26) Radiator 32.768 kHz CSS1319

## Part No.

CCSSCH101J50  
CKSSYB104K10  
CCSRCH150J50  
CCSRCH150J50

CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10

CKSSYB104K10  
CKSSYB104K10  
CSZS100M6R3  
CKSSYB104K10  
CKSSYB104K10

CKSSYB104K10  
CKSSYB104K10  
CSZS100M6R3  
CCSRCH100D50  
CCSRCH100D50

CCSRCH561J50  
CKSSYB104K10  
CSZS100M6R3  
CCSRCH331J50  
CKSSYB104K10

C

D

S-1131B15UC-N4A  
S-1131B25UC-N4K  
BD6171KV  
TA78L05F  
TC7SH08FUS1

TC7SH08FUS1  
OZ961ISN  
TC7SH08FUS1  
TC7SH08FUS1  
TC90A96BFGSING

TC7SET04FUS1  
NJM2100V  
TC7SET04FUS1  
TC7S66FU  
TC74VHC04FTS1

NJM082BV  
S-80835CNNB-B8U  
PE5607A  
BR93L56FJ-W  
TC7SH08FUS1

TC7SH08FUS1  
DTC114EUA  
RSQ035P03  
RSQ035P03

F

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

Q 5201 (A,78,18) Transistor

UMX2N

L 5108 (A,21,109) Inductor

CTF1635

Q 5202 (A,62,29) Transistor

2SC4617

L 5109 (A,58,107) Inductor

CTF1635

Q 5203 (A,59,29) Transistor

2SC4617

L 5110 (A,60,89) Inductor

CTF1635

Q 5204 (A,41,30) Transistor

2SA1774

L 5111 (A,60,92) Inductor

CTF1635

Q 5205 (A,82,21) Transistor

2SC4617

L 5112 (A,57,101) Inductor

CTF1635

Q 5206 (A,85,21) Transistor

2SC4617

L 5113 (A,84,97) Choke Coil 18  $\mu$ H CTH1250

Q 5301 (A,74,109) Transistor

2SC4081

L 5114 (A,65,84) Inductor

CTF1635

Q 5302 (A,62,111) Transistor

2SA1576A

L 5115 (A,93,63) Inductor

CTF1635

Q 5401 (A,39,113) Transistor

2SC4617

L 5116 (A,63,63) Inductor

CTF1635

Q 5501 (A,9,55) Transistor

UMX2N

L 5201 (A,80,33) Coil

CTH1338

Q 5502 (A,13,55) Transistor

UMT2N

L 5202 (A,43,29) Inductor

CTF1306

Q 5602 (A,109,96) Transistor

2SA1576A

L 5301 (A,69,112) Inductor

LCKAW220J2520

Q 5603 (A,106,95) Chip Transistor

DTC114EUA

L 5302 (A,65,112) Inductor

LCKAW270J2520

Q 5604 (A,115,96) Transistor

2SA1576A

L 5303 (A,59,103) Inductor

LCKAW101J2520

Q 5605 (A,112,95) Chip Transistor

DTC114EUA

L 5331 (A,81,107) Inductor

CTF1635

Q 5611 (A,127,69) Transistor

2SC4617

L 5371 (A,96,102) Inductor

CTF1306

Q 5701 (A,137,63) Transistor

UMF5N

L 5401 (A,48,111) Inductor

CTF1306

Q 5702 (A,141,63) Transistor

UMF5N

L 5402 (A,42,113) Inductor

CTF1306

Q 5703 (A,128,63) Transistor

FMG12

L 5403 (A,40,114) Inductor

CTF1306

Q 5705 (A,70,8) FET

TS8M1

L 5404 (A,34,112) Inductor

CTF1306

Q 5706 (A,62,8) FET

TS8M1

L 5405 (A,24,110) Inductor

CTF1306

D 5005 (A,122,33) Diode

UDZS5R6(B)

L 5406 (A,33,112) Inductor

CTF1306

D 5006 (A,114,39) Diode

UDZS5R6(B)

L 5407 (A,26,110) Inductor

CTF1306

D 5007 (A,119,39) Diode

UDZS5R6(B)

L 5408 (A,36,112) Inductor

CTF1306

D 5008 (A,122,37) Diode

UDZS5R6(B)

L 5409 (A,52,109) Inductor

CTF1306

D 5101 (A,73,95) Diode

RB500V-40

L 5410 (A,50,107) Inductor

CTF1306

D 5102 (A,73,100) Diode

RB500V-40

L 5411 (A,50,111) Inductor

CTF1306

D 5103 (A,87,85) Diode

RSX201L-30

L 5412 (A,54,103) Inductor

CTF1306

D 5104 (A,87,70) Diode

RB160M-30

L 5413 (A,21,107) Inductor

CTF1306

D 5105 (A,83,64) Diode

RB548W

L 5414 (A,20,106) Inductor

CTF1306

D 5106 (A,81,64) Diode

RB548W

L 5415 (A,20,104) Inductor

CTF1306

D 5107 (A,72,64) Diode

RB548W

L 5416 (A,17,103) Inductor

CTF1306

D 5108 (A,70,64) Diode

RB548W

L 5417 (A,17,102) Inductor

CTF1306

D 5109 (A,68,64) Diode

RB548W

L 5418 (A,54,100) Inductor

CTF1306

D 5201 (A,62,26) Diode

UDZS6R2(B)

L 5419 (A,20,101) Inductor

CTF1306

D 5202 (A,41,36) Diode

1SS355

L 5420 (A,54,98) Inductor

CTF1306

D 5203 (A,48,30) Diode

RB751V-40

L 5421 (A,17,98) Inductor

CTF1306

D 5204 (A,67,6) Diode

UDZS6R2(B)

L 5422 (A,19,96) Inductor

CTF1306

D 5205 (A,57,5) Diode

UDZS6R2(B)

L 5423 (A,15,96) Inductor

CTF1306

D 5206 (A,82,23) Diode

UDZS8R2(B)

L 5424 (A,15,95) Inductor

CTF1306

D 5207 (A,101,7) Diode

MA147

L 5425 (A,54,94) Inductor

CTF1306

D 5208 (A,98,8) Diode

UDZS6R2(B)

L 5426 (A,19,93) Inductor

CTF1306

D 5209 (A,107,7) Diode

MA147

L 5427 (A,19,92) Inductor

CTF1306

D 5271 (B,38,10) LED

CL-197HB1-D(CDE)

L 5428 (A,54,91) Inductor

CTF1306

D 5272 (B,52,10) LED

CL-197HB1-D(CDE)

L 5429 (A,19,90) Inductor

CTF1306

D 5273 (B,37,10) LED

CL-195SR-CD

L 5430 (A,19,89) Inductor

CTF1306

D 5274 (B,50,10) LED

CL-195SR-CD

L 5431 (A,54,88) Inductor

CTF1306

D 5275 (B,64,10) LED

CL-195SR-CD

L 5432 (A,54,86) Inductor

CTF1306

D 5701 (A,132,63) Diode

MA111

L 5433 (A,19,87) Inductor

CTF1306

D 5933 (B,65,10) LED

CL-197HB1-D(CDE)

L 5434 (A,19,85) Inductor

CTF1306

D 5971 (A,46,11) LED

CL-197HB1-D(CDE)

L 5435 (A,19,83) Inductor

CTF1306

D 5972 (A,57,11) LED

CL-197HB1-D(CDE)

L 5436 (A,19,82) Inductor

CTF1306

D 5981 (A,46,13) LED

CL-195SR-CD

L 5437 (A,54,83) Inductor

CTF1306

D 5982 (A,57,13) LED

CL-195SR-CD

L 5438 (A,19,80) Inductor

CTF1306

L 5101 (A,55,107) Inductor

CTF1635

L 5439 (A,47,73) Ferrite Bead

CTF1528

L 5102 (A,93,95) Choke Coil 10  $\mu$ H CTH1249

L 5440 (A,47,75) Ferrite Bead

CTF1528

L 5103 (A,84,90) Choke Coil 18  $\mu$ H CTH1250

L 5441 (A,46,74) Ferrite Bead

CTF1528

L 5104 (A,77,54) Inductor

CTF1488

L 5442 (A,46,76) Ferrite Bead

CTF1528

L 5105 (A,89,65) Choke Coil 68  $\mu$ H CTH1318

L 5443 (A,45,74) Ferrite Bead

CTF1528

L 5107 (A,84,61) Inductor

DTL1096

L 5444 (A,45,76) Ferrite Bead

CTF1528



5				6				7				8			
<u>Circuit Symbol and No.</u>				<u>Part No.</u>				<u>Circuit Symbol and No.</u>				<u>Part No.</u>			
L 5445	(A,43,74)	Inductor		CTF1306				R 5006	(A,100,48)			RS1/16SS0R0J			
L 5446	(A,39,77)	Ferrite Bead		CTF1528				R 5008	(A,98,48)			RS1/16SS0R0J			
L 5447	(A,39,75)	Ferrite Bead		CTF1528				R 5015	(A,108,100)			RS1/16S101J			A
L 5448	(A,38,77)	Ferrite Bead		CTF1528				R 5016	(A,107,99)			RS1/16S0R0J			
L 5449	(A,38,75)	Ferrite Bead		CTF1528				R 5019	(A,111,97)			RS1/16S0R0J			
L 5450	(A,37,77)	Ferrite Bead		CTF1528											
L 5451	(A,37,75)	Ferrite Bead		CTF1528				R 5020	(A,114,99)			RS1/16S0R0J			
L 5452	(A,36,74)	Inductor		CTF1306				R 5101	(A,70,94)			RS1/16SS684J			
L 5453	(A,35,75)	Ferrite Bead		CTF1528				R 5102	(A,70,99)			RS1/16SS474J			
L 5454	(A,35,77)	Ferrite Bead		CTF1528				R 5103	(A,70,89)			RS1/16S0R0J			
L 5455	(A,34,73)	Ferrite Bead		CTF1528				R 5104	(A,72,90)			RS1/16S6801F			
L 5456	(A,33,77)	Ferrite Bead		CTF1528				R 5105	(A,89,95)			RS1/16S0R0J			
L 5457	(A,33,75)	Ferrite Bead		CTF1528				R 5106	(A,80,88)			RS1/16S0R0J			
L 5458	(A,33,73)	Ferrite Bead		CTF1528				R 5107	(A,75,90)			RS1/16S201J			
L 5459	(A,28,75)	Ferrite Bead		CTF1528				R 5108	(A,81,86)			RS1/16S1001D			B
L 5460	(A,29,77)	Ferrite Bead		CTF1528				R 5109	(A,71,88)			RS1/16S1001D			
L 5461	(A,27,75)	Ferrite Bead		CTF1528				R 5110	(A,75,88)			RS1/16S682J			
L 5462	(A,27,77)	Ferrite Bead		CTF1528				R 5111	(A,66,81)			RS1/16S5100F			
L 5463	(A,25,75)	Ferrite Bead		CTF1528				R 5112	(A,81,84)			RS1/16S1600D			
L 5464	(A,26,77)	Ferrite Bead		CTF1528				R 5113	(A,78,87)			RS1/16S102J			
L 5465	(A,25,77)	Ferrite Bead		CTF1528				R 5114	(A,69,82)			RS1/16S0R0J			
L 5466	(A,48,75)	Inductor		CTF1306				R 5115	(A,78,85)			RS1/16S2700D			
L 5467	(A,31,74)	Inductor		CTF1306				R 5116	(A,66,82)			RS1/16S2001F			
L 5468	(A,30,74)	Inductor		CTF1306				R 5117	(A,73,85)			RS1/16S684J			
L 5469	(A,50,74)	Inductor		CTF1306				R 5118	(A,77,82)			RS1/16S333J			
L 5470	(A,42,74)	Inductor		CTF1306				R 5119	(A,73,82)			RS1/16S123J			C
L 5471	(A,41,74)	Inductor		CTF1306				R 5120	(A,82,81)			RS1/16S273J			
L 5472	(A,19,78)	Inductor		LCKAW101J2520				R 5121	(A,83,83)			RS1/16S150J			
L 5490	(A,21,99)	Inductor		CTF1306				R 5122	(A,87,73)			RS1/16S150J			
L 5491	(A,18,99)	Inductor		CTF1306				R 5123	(A,82,75)			RS1/16S563J			
L 5492	(A,21,98)	Inductor		CTF1306				R 5124	(A,74,67)			RS1/16S5102D			
L 5501	(A,15,77)	Inductor		CTF1306				R 5125	(A,68,68)			RS1/16S0R0J			
L 5502	(A,7,79)	Inductor		LCKAW101J2520				R 5126	(A,67,70)			RS1/16S1002F			
L 5503	(A,9,75)	Inductor		LCKAW101J2520				R 5127	(A,76,65)			RS1/16S4300D			
L 5504	(A,53,62)	Inductor		CTF1306				R 5128	(A,66,69)			RS1/16S1802F			
L 5505	(A,22,70)	Inductor		DTL1096				R 5129	(A,77,67)			RS1/16S1802D			D
L 5506	(A,15,65)	Inductor		DTL1096				R 5130	(A,66,66)			RS1/16S2202F			
L 5508	(A,49,72)	Inductor		CTF1306				R 5131	(A,66,64)			RS1/16S0R0J			
L 5509	(A,28,70)	Inductor		CTF1635				R 5132	(A,78,64)			RS1/16S3303D			
L 5510	(A,20,70)	Inductor		CTF1635				R 5133	(A,81,69)			RS1/16S0R0J			
L 5511	(A,62,82)	Inductor		CTF1635				R 5134	(A,79,61)			RS1/16S0R0J			
L 5601	(A,124,62)	Inductor		CTF1635				R 5201	(A,49,33)			RS1/16S103J			
L 5607	(A,15,92)	Inductor		CTF1635				R 5202	(A,60,27)			RS1/16S103J			
L 5701	(A,137,58)	Inductor		CTF1379				R 5203	(A,62,28)			RS1/16S104J			
T 5201	(B,92,10)	Transformer		CTT1130				R 5204	(A,46,34)			RS1/16S103J			
TH5601	(A,118,107)	Thermistor		CCX1051				R 5205	(A,58,32)			RS1/16S473J			
X 5401	(A,45,112)	Crystal Resonator 42 MHz	CSS1604					R 5206	(A,42,33)			RS1/16S472J			E
X 5601	(A,126,96)	Radiator 12.58 MHz	CSS1601					R 5207	(A,60,32)			RS1/16S105J			
S 5251	(B,65,14)	Push Switch	CSG1155					R 5208	(A,40,33)			RS1/16S473J			
S 5252	(B,51,14)	Push Switch	CSG1155					R 5209	(A,41,27)			RS1/16S333J			
S 5253	(B,37,14)	Push Switch	CSG1155					R 5210	(A,50,25)			RS1/16S513J			
VR5201	(A,37,24)	Semi-fixed 15 kohm(B)	CCP1397					R 5211	(A,48,27)			RS1/16S103J			
								R 5212	(A,54,15)			RS1/16S105J			
								R 5213	(A,45,29)			RS1/16S102J			
								R 5214	(A,38,20)			RS1/16S5602D			
								R 5215	(A,65,6)			RS1/16S103J			
<b>RESISTORS</b>															
R 5001	(A,117,34)			RS1/16S0R0J				R 5216	(A,59,5)			RS1/16S103J			
R 5002	(A,116,34)			RS1/16S0R0J				R 5217	(A,79,20)			RS1/16S103J			F
R 5003	(A,114,34)			RS1/16S0R0J				R 5218	(A,86,18)			RS1/16S621J			
R 5004	(A,119,34)			RS1/16S0R0J				R 5219	(A,79,22)			RS1/16S104J			
R 5005	(A,99,48)			RS1/16SS0R0J				R 5220	(A,85,24)			RS1/16S473J			

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

A	R 5221	(A,83,16)	RS1/16S621J	R 5503	(A,7,86)	RS1/16S101J
	R 5222	(A,82,18)	RS1/16S101J	R 5504	(A,17,75)	RS1/16SS681J
	R 5223	(A,81,18)	RS1/16S101J	R 5506	(A,13,82)	RS1/16S101J
	R 5224	(A,75,18)	RS1/16S821J	R 5507	(A,13,71)	RS1/16SS472J
	R 5225	(A,95,8)	RS1/16S471J	R 5508	(A,8,65)	RS1/16S3302F
■	R 5227	(A,40,19)	RS1/16S0R0J	R 5509	(A,57,64)	RS1/16S6800D
	R 5253	(B,56,13)	RS1/16S122J	R 5510	(A,11,60)	RS1/16S223J
	R 5254	(B,42,13)	RS1/16S222J	R 5512	(A,52,64)	RS1/16S27R0D
	R 5271	(A,31,9)	RS1/16S331J	R 5513	(A,54,64)	RS1/16S10R0D
	R 5272	(A,32,9)	RS1/16S331J	R 5514	(A,56,63)	RS1/16S1000D
B	R 5273	(A,34,9)	RS1/16S331J	R 5515	(A,59,66)	RS1/16S82R0F
	R 5274	(A,31,5)	RS1/16S221J	R 5516	(A,58,70)	RS1/16S56R0D
	R 5275	(A,32,5)	RS1/16S271J	R 5517	(A,57,70)	RS1/16S47R0D
	R 5279	(A,31,11)	RS1/16S181J	R 5518	(A,56,70)	RS1/16S36R0D
	R 5280	(A,32,11)	RS1/16S271J	R 5519	(A,54,70)	RS1/16S33R0F
■	R 5301	(A,77,112)	RS1/16S0R0J	R 5520	(A,53,70)	RS1/16S27R0D
	R 5302	(A,77,110)	RS1/16S104J	R 5521	(A,51,70)	RS1/16S1800D
	R 5303	(A,74,107)	RS1/16S153J	R 5522	(A,50,70)	RS1/16S82R0F
	R 5304	(A,71,107)	RS1/16S104J	R 5523	(A,49,70)	RS1/16S12R0F
	R 5305	(A,69,109)	RS1/16S681J	R 5524	(A,8,62)	RS1/16S5602F
C	R 5306	(A,71,109)	RS1/16S471J	R 5525	(A,9,60)	RS1/16S101J
	R 5307	(A,64,109)	RS1/16S272J	R 5526	(A,8,52)	RS1/16SS153J
	R 5308	(A,60,111)	RS1/16S392J	R 5527	(A,14,52)	RS1/16S153J
	R 5331	(A,89,109)	RS1/16S103J	R 5528	(A,11,55)	RS1/16SS0R0J
	R 5332	(A,88,107)	RS1/16SS0R0J	R 5529	(A,12,52)	RS1/16S0R0J
■	R 5333	(A,81,109)	RS1/16S101J	R 5530	(A,32,66)	RS1/16SS102J
	R 5351	(A,101,62)	RS1/16S75R0D	R 5531	(A,9,58)	RS1/16S100J
	R 5352	(A,103,66)	RS1/16S220J	R 5532	(A,11,57)	RS1/16SS100J
	R 5353	(A,103,59)	RS1/16S75R0D	R 5533	(A,9,52)	RS1/16S0R0J
	R 5354	(A,105,63)	RS1/16S220J	R 5534	(A,11,52)	RS1/16S0R0J
D	R 5355	(A,105,56)	RS1/16S75R0D	R 5601	(A,107,92)	RS1/16S273J
	R 5356	(A,107,59)	RS1/16S220J	R 5602	(A,109,94)	RS1/16S473J
	R 5357	(A,32,115)	RS1/16SS105J	R 5603	(A,15,88)	RS1/16S471J
	R 5358	(A,33,115)	RS1/16SS105J	R 5604	(A,136,93)	RS1/16SS0R0J
	R 5359	(A,34,115)	RS1/16SS105J	R 5605	(A,113,92)	RS1/16S273J
■	R 5371	(A,98,104)	RS1/10S103J	R 5606	(A,115,93)	RS1/16S473J
	R 5372	(A,96,104)	RS1/16SS0R0J	R 5607	(A,139,93)	RS1/16S103J
	R 5373	(A,91,107)	RS1/16S101J	R 5608	(A,137,93)	RS1/16SS0R0J
	R 5401	(A,44,108)	RS1/16SS391J	R 5609	(A,133,98)	RS1/16S104J
	R 5402	(A,59,113)	RS1/16S0R0J	R 5610	(A,113,82)	RAB4CQ471J
E	R 5403	(A,45,108)	RS1/16SS105J	R 5611	(A,126,71)	RS1/16S473J
	R 5404	(A,39,110)	RS1/16SS331J	R 5612	(A,126,67)	RS1/16S103J
	R 5405	(A,37,111)	RS1/16SS152J	R 5614	(A,113,78)	RAB4CQ471J
	R 5407	(A,18,106)	RS1/16S0R0J	R 5619	(A,138,79)	RS1/16S471J
	R 5408	(A,17,105)	RS1/16S101J	R 5620	(A,125,70)	RS1/16S471J
■	R 5410	(A,15,103)	RS1/16S101J	R 5621	(A,121,66)	RS1/16S470J
	R 5414	(A,17,93)	RS1/16SS333J	R 5623	(A,121,69)	RS1/16S470J
	R 5418	(A,44,70)	RAB4CQ221J	R 5624	(A,120,69)	RS1/16S272J
	R 5419	(A,41,70)	RAB4CQ221J	R 5625	(A,120,66)	RS1/16S272J
	R 5420	(A,35,71)	RAB4CQ221J	R 5630	(A,118,108)	RS1/16S153J
F	R 5421	(A,22,76)	RAB4CQ221J	R 5631	(A,133,95)	RS1/16S101J
	R 5422	(A,47,71)	RS1/16SS221J	R 5633	(A,116,66)	RAB4CQ473J
	R 5423	(A,46,70)	RS1/16SS221J	R 5636	(A,138,81)	RAB4CQ102J
	R 5424	(A,38,73)	RS1/16SS221J	R 5637	(A,144,75)	RS1/16S473J
	R 5425	(A,37,73)	RS1/16SS221J	R 5638	(A,141,84)	RS1/16S473J
■	R 5426	(A,33,71)	RS1/16SS221J	R 5640	(A,130,70)	RS1/16S471J
	R 5427	(A,32,71)	RS1/16SS221J	R 5641	(A,121,96)	RAB4CQ472J
	R 5428	(A,30,72)	RS1/16SS221J	R 5646	(A,131,70)	RS1/16S102J
	R 5429	(A,28,73)	RS1/16SS221J	R 5651	(A,119,62)	RS1/16S0R0J
	R 5430	(A,25,74)	RS1/16SS221J	R 5652	(A,113,85)	RAB4CQ471J

Circuit Symbol and No.		Part No.	Circuit Symbol and No.		Part No.
R 5659	(A,124,106)	RS1/16S473J	C 5119	(A,65,86)	CKSRYB104K50
R 5674	(A,138,84)	RS1/16S473J	C 5121	(A,73,88)	CKSRYB473K50
R 5675	(A,138,86)	RS1/16S473J	C 5122	(A,89,89) 68 µF/6.3 V	CCH1440
R 5678	(A,141,92)	RS1/16S473J	C 5123	(A,78,89)	CCSRCH331J50
R 5680	(A,143,92)	RS1/16S473J	C 5124	(A,92,90)	CKSRYB104K50
R 5683	(A,145,87)	RS1/16S473J	C 5125	(A,70,85)	CKSRYB104K50
R 5684	(A,146,92)	RS1/16S473J	C 5126	(A,68,86)	CSZS100M16
R 5692	(A,131,98)	RS1/16S104J	C 5127	(A,75,85)	CKSRYB103K50
R 5693	(A,131,95)	RS1/16S471J	C 5128	(A,77,85)	CCSRCH101J50
R 5694	(A,130,95)	RS1/16S471J	C 5130	(A,78,82)	CKSRYB103K50
R 5696	(A,130,98)	RS1/16S473J	C 5131	(A,75,82)	CKSRYB393K16
R 5699	(A,113,88)	RS1/16S104J	C 5132	(A,71,85)	CKSRYB393K16
R 5701	(A,140,66)	RS1/16S0R0J	C 5133	(A,93,81)	CKSRYB103K50
R 5702	(A,137,66)	RS1/16S0R0J	C 5134	(A,80,81)	CKSRYB104K50
R 5703	(A,137,60)	RS1/16S103J	C 5135	(A,88,81) 10 µF	CCG1223
R 5704	(A,141,60)	RS1/16S103J	C 5136	(A,66,78)	CKSRYB393K16
R 5705	(A,137,59)	RS1/16S103J	C 5137	(A,91,81) 10 µF	CCG1223
R 5706	(A,141,59)	RS1/16S103J	C 5138	(A,76,56)	CKSRYB224K16
R 5707	(A,134,59)	RS1/16S105J	C 5139	(A,81,78)	CKSRYB105K10
R 5708	(A,131,59)	RS1/16S105J	C 5140	(A,81,77)	CKSRYB102K50
R 5709	(A,129,59)	RS1/16S102J	C 5141	(A,91,73) 10 µF	CCG1223
R 5710	(A,127,59)	RS1/16S102J	C 5143	(A,88,73)	CKSRYB103K50
R 5711	(A,122,105)	RS1/16S104J	C 5144	(A,66,74)	CKSRYB102K50
R 5801	(A,8,92)	RS1/16SS104J	C 5145	(A,80,75)	CKSRYB104K50
R 5802	(A,9,92)	RS1/16SS104J	C 5146	(A,65,71)	CKSRYB105K10
R 5803	(A,10,92)	RS1/16SS104J	C 5147	(A,82,71)	CKSRYB105K10
R 5811	(A,11,109)	RS1/16SS473J	C 5148	(A,80,71)	CKSRYB103K50
R 5812	(A,10,109)	RS1/16SS473J	C 5149	(A,71,68)	CKSRYB104K50
R 5813	(A,7,92)	RS1/16SS473J	C 5150	(A,76,60)	CKSYB475K16
R 5814	(A,9,109)	RS1/16SS472J	C 5151	(A,81,67)	CKSRYB472K50
R 5849	(A,111,38)	RS1/16S0R0J	C 5152	(A,79,67)	CKSRYB472K50
R 5971	(A,53,6)	RS1/16S151J	C 5153	(A,96,69)	CKSRYB104K50
R 5972	(A,50,6)	RS1/16S391J	C 5154	(A,76,59)	CKSRYB103K50
R 5981	(A,53,8)	RS1/16S271J	C 5155	(A,72,66)	CKSRYB104K50
R 5982	(A,50,8)	RS1/16S271J	C 5156	(A,71,66)	CKSRYB104K50
<b>CAPACITORS</b>			C 5157	(A,69,66)	CKSRYB104K50
C 5001	(A,121,32)	CKSRYB102K50	C 5158	(A,94,68) 33 µF/10 V	CCH1586
C 5002	(A,116,39)	CKSRYB102K50	C 5159	(A,94,60)	CKSQYF105Z25
C 5003	(A,120,39)	CKSRYB102K50	C 5160	(A,81,61)	CKSRYB104K50
C 5004	(A,121,35)	CKSRYB102K50	C 5161	(A,83,61)	CKSQYF105Z25
C 5101	(A,55,111)	CKSYB105K16	C 5163	(A,70,60)	CKSQYF105Z25
C 5102	(A,20,112)	CSZSR330M10	C 5164	(A,68,60)	CKSQYF105Z25
C 5103	(A,57,111)	CKSYB105K16	C 5165	(A,66,60)	CKSQYF225Z16
C 5104	(A,76,96)	CKSSYB104K10	C 5166	(A,64,60)	CKSQYF225Z16
C 5105	(A,60,87)	CSZS100M16	C 5167	(A,84,68)	CKSRYB105K10
C 5106	(A,57,92)	CSZSR220M10	C 5168	(A,68,66)	CKSRYB105K10
C 5107	(A,79,98)	CSZSR330M10	C 5169	(A,83,58)	CKSQYF105Z25
C 5108	(A,57,97)	CSZSR220M10	C 5170	(A,62,60)	CKSQYF105Z25
C 5109	(A,65,91)	CSZS100M10	C 5201	(A,77,26) 10 µF	CCG1223
C 5110	(A,63,89)	CKSSYB104K10	C 5202	(A,74,26) 10 µF	CCG1223
C 5111	(A,65,103)	CSZS100M10	C 5204	(A,66,31)	CKSRYB104K50
C 5112	(A,65,105)	CKSSYB104K10	C 5205	(A,62,34)	CKSRYB105K10
C 5113	(A,70,93)	CKSSYB104K10	C 5206	(A,43,32)	CKSRYB104K50
C 5114	(A,71,95)	CKSRYB105K10	C 5207	(A,52,17)	CKSRYB104K50
C 5115	(A,70,97)	CKSSYB104K10	C 5208	(A,51,21)	CKSRYB104K50
C 5116	(A,71,100)	CKSQYF105Z25	C 5209	(A,52,15)	CKSRYB105K10
C 5117	(A,94,89)	CSZS100M16	C 5211	(A,51,18)	CKSRYB474K10
C 5118	(A,95,88)	CKSRYB105K10	C 5212	(A,52,22)	CKSRYB332K50
			C 5213	(A,52,19)	CKSRYB105K10
			C 5214	(A,52,25)	CKSRYB152K50

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

C 5215 (A,45,25) CKSRYB104K50  
 C 5216 (A,54,17) CKSRYB103K50  
 C 5217 (A,40,21) CKSRYB473K50

C 5435 (A,52,103)  
 C 5436 (A,23,106)  
 C 5437 (A,19,102)

CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10

A

C 5218 (A,40,16) CKSRYB473K50  
 C 5219 (A,40,17) CKSRYB221K50  
 C 5220 (A,66,11) 10  $\mu$ F CCG1236  
 C 5221 (A,58,10) 10  $\mu$ F CCG1236  
 C 5222 (A,72,9) CKSRYB105K10

C 5438 (A,52,100)  
 C 5439 (A,21,101)  
 C 5440 (A,52,98)  
 C 5441 (A,21,96)  
 C 5442 (A,52,94)

CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10

C 5223 (A,74,9) CKSRYB105K10  
 C 5224 (A,84,18) CKSRYB104K50  
 C 5225 (B,112,10) 22 pF CCG1214  
 C 5226 (A,104,7) CKSRYB223K50  
 C 5271 (B,41,11) CKSRYB104K50

C 5443 (A,18,94)  
 C 5444 (A,21,93)  
 C 5445 (A,52,92)  
 C 5447 (A,21,90)  
 C 5448 (A,21,89)

CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10

B

C 5272 (B,54,9) CKSRYB104K50  
 C 5273 (B,67,9) CKSRYB104K50  
 C 5301 (A,74,112) CKSQYB106K6R3  
 C 5302 (A,69,110) CCSRCH470J50  
 C 5303 (A,67,109) CCSRCH680J50

C 5449 (A,52,88)  
 C 5450 (A,52,86)  
 C 5451 (A,21,87)  
 C 5453 (A,21,86)  
 C 5454 (A,22,84)

CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10

C 5304 (A,65,114) CCSRCH5R0C50  
 C 5305 (A,65,109) CCSRCH470J50  
 C 5306 (A,61,109) CKSRYB104K50  
 C 5307 (A,62,106) CSZSR330M10  
 C 5331 (A,85,106) CKSQYB106K6R3

C 5455 (A,22,82)  
 C 5456 (A,52,82)  
 C 5457 (A,21,80)  
 C 5458 (A,50,77)  
 C 5459 (A,43,76)

CKSSYB104K10  
 CKSSYB104K10  
 CKSRYB105K10  
 CKSSYB104K10  
 CKSSYB104K10

C

C 5351 (A,101,69) CCSRCH331J50  
 C 5352 (A,103,69) CCSRCH331J50  
 C 5353 (A,105,66) CCSRCH331J50  
 C 5354 (A,34,117) CKSSYB104K16  
 C 5355 (A,33,117) CKSSYB104K16

C 5460 (A,42,77)  
 C 5461 (A,40,77)  
 C 5462 (A,36,77)  
 C 5463 (A,31,77)  
 C 5464 (A,30,77)

CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10

C 5356 (A,32,117) CKSSYB104K16  
 C 5372 (A,94,104) CKSSYF104Z16  
 C 5373 (A,94,108) CCSRCH151J50  
 C 5374 (A,94,102) 10  $\mu$ F CCG1171  
 C 5401 (A,46,110) CCSSCH9R0D50

C 5465 (A,48,77)  
 C 5466 (A,52,75)  
 C 5505 (A,13,78)  
 C 5507 (A,13,87)  
 C 5508 (A,13,76)

CKSSYB104K10  
 CSZSR330M10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSRYB105K10

D

C 5402 (A,44,110) CCSSCH9R0D50  
 C 5403 (A,41,110) CKSSYB104K10  
 C 5404 (A,32,110) CKSSYB104K10  
 C 5405 (A,30,110) CKSSYB104K10  
 C 5406 (A,29,110) CKSSYB104K10

C 5509 (A,58,82)  
 C 5510 (A,14,71)  
 C 5511 (A,8,70)  
 C 5512 (A,13,61)  
 C 5513 (A,10,72)

CKSSYB104K10  
 CKSRYB105K10  
 CKSSYB104K10  
 CKSRYB104K50  
 CSZSR220M16

C 5407 (A,38,110) CCSSCH4R0C50  
 C 5410 (A,49,108) CKSSYB104K10  
 C 5411 (A,46,108) CKSSYB104K10  
 C 5412 (A,42,108) CKSSYB104K10  
 C 5413 (A,40,111) CKSSYB103K16

C 5514 (A,10,79) 4.7  $\mu$ F  
 C 5515 (A,8,68)  
 C 5516 (A,61,74)  
 C 5517 (A,62,77)  
 C 5518 (A,12,60)

CCG1111  
 CKSRYB105K10  
 CKSSYB104K10  
 CSZS100M16  
 CKSRYB104K50

E

C 5414 (A,41,108) CCSSCH181J25  
 C 5415 (A,40,108) CKSSYB104K10  
 C 5416 (A,38,108) CKSSYB104K10  
 C 5417 (A,27,114) CKSSYB104K10  
 C 5418 (A,26,114) CKSSYB104K10

C 5519 (A,27,72)  
 C 5520 (A,25,72)  
 C 5521 (A,19,73)  
 C 5522 (A,14,68)  
 C 5523 (A,29,68)

CKSSYB104K10  
 CKSSYB104K10  
 CKSRYB104K50  
 CKSRYB104K50  
 CSZSR220M16

C 5419 (A,37,109) CKSSYB104K10  
 C 5420 (A,36,108) CKSSYB104K10  
 C 5421 (A,23,113) CKSSYB104K10  
 C 5422 (A,24,113) CKSSYB104K10  
 C 5423 (A,34,108) CKSSYB104K10

C 5524 (A,24,69)  
 C 5525 (A,21,67)  
 C 5526 (A,16,69) 4.7  $\mu$ F  
 C 5527 (A,30,65)  
 C 5528 (A,26,66)

CSZS100M16  
 CKSQYF334Z25  
 CCG1111  
 CKSSYB104K10  
 CKSSYB104K10

F

C 5424 (A,27,112) CKSSYB104K10  
 C 5428 (A,32,108) CKSSYB104K10  
 C 5429 (A,28,110) CKSSYB104K10  
 C 5430 (A,27,110) CKSSYB104K10  
 C 5431 (A,28,108) CKSSYB104K10

C 5529 (A,22,65)  
 C 5530 (A,19,67)  
 C 5601 (A,138,96)  
 C 5602 (A,142,96)  
 C 5603 (A,107,81)

CKSRYB104K50  
 CKSRYB104K50  
 CKSRYB103K50  
 CKSSYF104Z16  
 CKSSYB103K25

C 5433 (A,24,108) CKSSYB104K10  
 C 5434 (A,52,105) CKSSYB104K10

C 5604 (A,128,94)  
 C 5605 (A,123,57)

CKSSYF104Z16  
 CSZSR330M10

<u>Circuit Symbol and No.</u>		<u>Part No.</u>
C 5606	(A,144,83)	CKSSYF104Z16
C 5607	(A,123,59)	CKSSYF104Z16
C 5609	(A,13,91)	CKSSYB103K25
C 5611	(A,128,71)	CKSRYB105K10
C 5612	(A,128,67)	CKSSYF104Z16
C 5631	(A,116,71)	CKSSYF104Z16
C 5632	(A,116,73)	CKSSYF104Z16
C 5633	(A,118,94)	CKSRYB104K50
C 5701	(A,140,58)	CKSSYB102K50
C 5702	(A,135,58)	CKSSYB102K50
C 5703	(A,132,58)	CKSSYB102K50
C 5704	(A,129,57)	CKSSYB102K50
C 5705	(A,127,57)	CKSSYB102K50
C 5971	(A,46,8)	CKSRYB104K50
C 5972	(A,57,8)	CKSRYB104K50

## I J K L

### Mother Tuner Unit(Mother Unit)

#### Consists of

#### Ipod PCB

#### Mezzanine PCB

#### Mother PCB

#### Connector PCB

**Unit Number : CWN2310(UC)**

**Unit Name : Mother Tuner Unit(UC)**

**Unit Number : CWN2311(EW5)**

**Unit Name : Mother Unit(EW5)**

### MISCELLANEOUS

IC 1001	(B,98,41) IC	NJM2137V
IC 1101	(B,72,109) IC	HA12240FP
IC 1102	(B,139,108) IC	NJM2794RB2
IC 1301	(B,105,33) IC	NJM2794RB2
IC 1303	(B,99,33) IC	NJM2137V
IC 1305	(B,90,32) IC	NJM2505F
IC 1351	(B,84,33) IC	NJM2794RB2
IC 1352	(B,78,35) IC	NJM2137V
IC 1401	(A,54,82) IC	NJM2391DL1-33
IC 1402	(B,57,103) IC	NJM4558E
IC 1501	(A,79,51) IC	CXA2069Q
IC 1551	(B,62,38) IC	NJM2561F1
IC 1552	(B,64,71) IC	NJM2561F1
IC 1601	(B,94,84) IC	TC7SH04FUS1
IC 1602	(A,93,115) IC	TC7SH08FUS1
IC 1606	(A,90,99) IC(UC)	PEG355A
	(A,90,99) IC(EW5)	PEG354A
IC 1608	(A,71,97) IC	TC7SH04FUS1
IC 1609	(B,79,108) IC	TC7SH08FUS1
IC 1610	(B,81,101) L-MOS And Gate	TC7SET08FUS1
IC 1619	(B,102,86) IC	TC74VHC08FTS1
IC 1675	(A,85,120) IC	341S2094
IC 1676	(B,93,118) L-MOS And Gate	TC7SET08FUS1
IC 1677	(A,70,106) IC	TC7WBD125AFK
IC 1751	(B,22,123) IC	NJM2794RB2
IC 1752	(B,31,121) IC	NJM2505F
IC 1821	(A,141,126) IC	NJM2904M

<u>Circuit Symbol and No.</u>		<u>Part No.</u>
IC 1871	(A,146,90) IC	S-812C33AMC-C2N
IC 1872	(B,138,89) IC	S-L2980A50MC-C7J
IC 1901	(A,166,85) IC	NJM2391DL1-33
IC 1971	(B,104,48) IC	NJM2794RB2
IC 1972	(A,101,116) IC	TC74VHC08FTS1
IC 1981	(B,62,93) IC	S-812C33BUC-C4N
Q 1101	(B,130,124) Chip Transistor	DTC124EUA
Q 1102	(B,131,127) Transistor	2SA1576A
Q 1401	(A,38,33) Transistor(EW5)	2SC3357
Q 1402	(B,54,39) Transistor(EW5)	2SC3127
Q 1403	(B,100,92) Chip Transistor(EW5)	DTC124EUA
Q 1404	(B,100,98) Chip Transistor(EW5)	DTC124EUA
Q 1405	(B,86,109) Chip Transistor(EW5)	DTC124EUA
Q 1406	(B,100,95) Chip Transistor(EW5)	DTC124EUA
Q 1551	(B,75,81) Transistor	2SC2412K
Q 1552	(B,70,81) Transistor	2SC2412K
Q 1553	(B,72,86) Transistor	FMG12
Q 1554	(B,60,52) Transistor	2SA1576A
Q 1555	(B,77,70) Transistor	2SA1576A
Q 1556	(B,63,81) Transistor	2SA1037K
Q 1557	(B,61,46) Transistor	2SC2412K
Q 1558	(B,71,70) Transistor	2SC2412K
Q 1559	(B,59,84) Transistor	2SC4081
Q 1560	(A,65,86) Transistor	2SC4081
Q 1602	(B,80,112) Chip Transistor	DTC124EUA
Q 1603	(B,82,105) Chip Transistor	DTC124EUA
Q 1751	(B,120,102) Transistor	2SA1797
Q 1752	(B,129,101) Transistor	2SA1162
Q 1753	(A,126,116) Transistor	2SA1797
Q 1754	(A,130,100) Transistor	2SC4081
Q 1755	(A,137,115) Chip Transistor	DTC114EUA
Q 1801	(B,149,64) Transistor(EW5)	2SC3130
Q 1802	(B,130,63) Transistor(EW5)	DTC144EK
Q 1803	(B,134,63) Transistor(EW5)	DTC144EK
Q 1821	(B,159,118) Chip Transistor	DTC114EUA
Q 1822	(A,138,131) Transistor	DTC114WK
Q 1871	(B,166,105) Chip Transistor	DTC114EUA
Q 1872	(B,171,102) Transistor	2SA1037K
Q 1881	(B,171,125) Chip Transistor	DTC114EUA
Q 1901	(A,82,80) Transistor	2SA1036K
Q 1903	(B,86,78) Transistor	DTC114EK
Q 1905	(B,162,39) Transistor	2SB1260
Q 1906	(B,160,29) Transistor	DTC114EK
Q 1907	(A,173,61) Transistor	2SB1185
Q 1908	(A,172,42) Transistor	2SD2375
Q 1909	(A,172,72) Transistor	2SD2375
Q 1910	(B,168,58) Transistor	UMX1N
Q 1951	(B,115,85) Transistor	2SD2098
Q 1952	(B,152,42) Transistor	2SD2098
Q 1953	(A,71,102) Chip Transistor	DTC114EUA
Q 2821	(B,45,24) Transistor	UMD2N
Q 2831	(B,45,19) Transistor	FMG12
Q 2832	(B,45,12) Transistor	FMG12
Q 2833	(B,45,6) Transistor	FMG12
Q 2834	(B,49,19) Chip Transistor	DTA114EUA
Q 2886	(B,25,12) Transistor	2SC4081
D 1001	(B,132,15) Diode	UDZS6R8(B)
D 1002	(B,133,10) Diode	UDZS6R8(B)
D 1003	(B,137,10) Diode	UDZS6R8(B)
D 1004	(A,134,23) Diode	UDZS6R8(B)

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

A	D 1005	(A,133,27) Diode	UDZS6R8(B)
	D 1006	(B,137,15) Diode	UDZS6R8(B)
	D 1007	(A,132,23) Diode	UDZS6R8(B)
	D 1008	(B,128,10) Diode	UDZS6R8(B)
	D 1009	(B,127,15) Diode	UDZS6R8(B)
	D 1010	(A,131,27) Diode	UDZS6R8(B)
	D 1011	(A,128,23) Diode	UDZS6R8(B)
	D 1012	(A,130,23) Diode	MALS068X
	D 1013	(A,135,27) Diode	UDZS6R8(B)
	D 1014	(A,129,27) Diode	MALS068X
	D 1015	(A,122,27) Diode	MALS068X
	D 1016	(A,126,23) Diode	UDZS6R8(B)
	D 1017	(A,125,27) Diode	UDZS6R8(B)
	D 1018	(A,124,27) Diode	UDZS6R8(B)
B	D 1019	(A,119,29) Diode	MALS068X
	D 1020	(A,118,29) Diode	MALS068X
	D 1021	(A,116,29) Diode	MALS068X
	D 1022	(A,113,29) Diode	MALS068X
	D 1023	(A,127,27) Diode	UDZS6R8(B)
	D 1101	(B,109,116) Diode	DAN202U
	D 1102	(B,114,116) Diode	MALS068X
	D 1103	(B,112,116) Diode	DAP202U
	D 1104	(B,119,116) Diode	MALS068X
	D 1301	(B,104,20) Diode	MALS068X
C	D 1302	(B,89,20) Diode	MALS068X
	D 1303	(B,77,20) Diode	MALS068X
	D 1304	(B,74,20) Diode	MALS068X
	D 1305	(B,68,24) Diode	MALS180X
	D 1308	(B,68,22) Diode	MALS180X
	D 1351	(B,49,16) Diode	MALS068X
	D 1352	(B,49,10) Diode	MALS068X
	D 1353	(B,49,13) Diode	MALS068X
	D 1354	(B,49,17) Diode	MALS068X
	D 1401	(A,52,74) Diode	1SR154-400
D	D 1402	(A,52,70) Diode	1SR154-400
	D 1403	(A,52,66) Diode	1SR154-400
	D 1551	(B,68,86) Diode	DAP202U
	D 1552	(B,61,74) Diode	MA111
	D 1553	(B,61,87) Diode	DAN202U
	D 1556	(A,70,88) Diode	UDZS8R2(B)
	D 1751	(B,51,123) Diode	MALS068X
	D 1752	(B,47,116) Diode	EDZ6R8(B)
	D 1753	(B,47,113) Diode	EDZ6R8(B)
	D 1754	(B,46,122) Diode	EDZ6R8(B)
E	D 1755	(B,46,125) Diode	EDZ6R8(B)
	D 1756	(B,46,119) Diode	EDZ6R8(B)
	D 1757	(B,52,130) Diode	MALS068X
	D 1758	(B,48,130) Diode	MALS068X
	D 1759	(B,51,120) Diode	MALS068X
	D 1760	(B,49,130) Diode	MALS068X
	D 1763	(B,63,114) Diode	RB060L-40
	D 1764	(A,133,119) Diode	UDZS22(B)
	D 1801	(B,132,76) Diode(EW5)	HZU3R3(B1)
	D 1821	(A,159,125) Diode	S1G-6904G2P
F	D 1824	(A,150,119) Diode	1SS355
	D 1871	(B,163,99) Diode	UDZS5R6(B)
	D 1882	(B,167,127) Diode	1SS355
	D 1883	(A,168,126) Diode	UDZS6R8(B)
	D 1884	(B,145,110) Diode	RB500V-40
	D 1902	(B,167,46) Diode	HZU9R1(B3)

D 1903	(B,167,70) Diode	UDZS5R6(B)
D 1950	(B,107,91) Diode	UDZS13(B)
D 1951	(B,153,46) Diode	UDZS5R6(B)
D 1983	(A,162,127) Diode	UDZS27(B)
D 1984	(A,162,131) Diode	UDZS27(B)
D 1986	(B,167,63) Diode	HZU7R5(B3)
D 2811	(B,32,20) Diode	EDZ10(B)
D 2812	(B,29,21) Diode	EDZ10(B)
D 2813	(B,23,18) Diode	UDZS6R8(B)
D 2814	(B,22,18) Diode	UDZS6R8(B)
D 2821	(B,50,26) Diode	MA111
D 2822	(B,52,20) Diode	DAN202U
D 2851	(B,23,35) Diode	1SS355
D 2852	(B,19,35) Diode	1SS355
D 2886	(A,28,10) Diode	S1G-6904G2P
D 2887	(A,28,13) Diode	S1G-6904G2P
ZNR1401	(A,18,34) Surge Protector	RCCA-201Q31UA-PI
L 1001	(B,132,12) Inductor	CTF1334
L 1002	(B,132,7) Inductor	CTF1334
L 1003	(B,137,7) Inductor	CTF1334
L 1004	(B,137,12) Inductor	CTF1334
L 1005	(B,128,7) Inductor	CTF1306
L 1006	(B,135,31) Inductor	CTF1306
L 1007	(B,136,31) Inductor	CTF1306
L 1008	(B,138,31) Inductor	CTF1306
L 1009	(B,113,31) Inductor	CTF1306
L 1010	(B,114,31) Inductor	CTF1306
L 1011	(B,118,31) Inductor	CTF1306
L 1012	(B,120,31) Inductor	CTF1306
L 1013	(B,123,31) Inductor	CTF1334
L 1014	(B,124,31) Inductor	CTF1334
L 1015	(B,126,31) Inductor	CTF1334
L 1016	(B,121,31) Inductor	CTF1382
L 1017	(B,127,31) Inductor	CTF1334
L 1018	(B,130,31) Inductor	CTF1382
L 1019	(B,132,31) Inductor	CTF1382
L 1020	(B,133,31) Inductor	CTF1334
L 1021	(B,127,12) Inductor	CTF1334
L 1022	(B,129,31) Inductor	CTF1334
L 1023	(A,104,110) Inductor	CTF1334
L 1026	(B,94,44) Chip Ferrite Bead	CTF1399
L 1101	(B,72,118) Inductor	LCTAW2R2J2520
L 1102	(B,141,119) Inductor	CTF1334
L 1103	(B,139,119) Inductor	CTF1334
L 1104	(B,134,119) Inductor	CTF1334
L 1105	(B,136,119) Inductor	CTF1334
L 1302	(B,102,32) Chip Ferrite Bead	CTF1399
L 1307	(B,103,24) Inductor	CTF1334
L 1308	(B,105,24) Inductor	CTF1334
L 1309	(B,108,24) Inductor	CTF1334
L 1310	(B,106,24) Inductor	CTF1334
L 1351	(B,81,38) Chip Ferrite Bead	CTF1399
L 1353	(B,78,25) Inductor	CTF1334
L 1354	(B,78,23) Inductor	CTF1334
L 1355	(B,78,28) Inductor	CTF1334
L 1356	(B,78,27) Inductor	CTF1334
L 1401	(B,40,45) Chip Coil	LCTAW4R7J2520
L 1402	(A,28,33) Inductor(EW5)	LCTAWR12J2520
L 1403	(B,56,79) Chip Coil	LCTAW1R0J2520
L 1404	(A,32,35) Inductor(EW5)	LCTCR10K2125

5			6			7			8		
<u>Circuit Symbol and No.</u>			<u>Part No.</u>			<u>Circuit Symbol and No.</u>			<u>Part No.</u>		
L 1405	(A,56,92)	Chip Coil	LCTAW1R0J2520			L 2853	(B,51,16)	Inductor	CTF1334		
L 1406	(B,58,58)	Chip Coil	LCTAW1R0J2520			L 2854	(B,60,11)	Inductor	CTF1334		
L 1407	(A,44,33)	Coil(EW5)	CTC1194			L 2855	(B,60,13)	Inductor	CTF1334		
L 1408	(B,54,46)	Inductor(EW5)	LCTCR10K2125			L 2856	(B,51,13)	Inductor	CTF1334		A
L 1409	(B,54,43)	Inductor(EW5)	LCTCR18K2125			L 2857	(B,51,9)	Inductor	CTF1306		
L 1410	(B,58,43)	Inductor(EW5)	LCTAW101J2520			L 2861	(B,51,6)	Inductor	CTF1306		
L 1411	(A,39,26)	Coil(EW5)	CTC1193			L 2862	(B,60,7)	Inductor	CTF1306		
L 1412	(B,38,23)	Inductor(EW5)	LCTAW101J2520			L 2886	(B,29,12)	Inductor	CTF1295		
L 1413	(A,49,26)	Coil(EW5)	CTC1192			X 1601	(A,90,111)	Oscillator 20.000 MHz	VSS1186		
L 1501	(B,82,58)	Chip Coil	LCTAW100J2520			X 1675	(A,79,116)	Oscillator 32.768 kHz	CSS1735		
L 1551	(B,64,76)	Inductor	LCTAW101J2520			VR1551	(A,62,48)	Semi-fixed 10 kohm(B)	CCP1448		
L 1552	(B,64,49)	Chip Coil	LCTAW100J2520			△FU1701	(A,93,123)	Fuse 3.15 A	CEK1259		
L 1553	(B,76,74)	Chip Coil	LCTAW100J2520			△FU1702	(A,71,124)	Fuse 3.15 A	CEK1259		
L 1554	(B,65,35)	Chip Coil	LCTAW100J2520			△FU1951	(A,118,88)	Fuse 2 A	CEK1257		B
L 1555	(B,72,63)	Chip Coil	LCTAW100J2520			△FU2801	(B,32,5)	Fuse 3.15 A	CEK1259		
L 1601	(A,97,84)	Inductor	CTF1379			GY1861	(A,171,114)	Sensor	CSX1118		
L 1602	(B,98,103)	Inductor	CTF1379			GY1890	(A,171,100)	Sensor	CSX1122		
L 1603	(A,86,112)	Inductor	CTF1379			Y 1401	(A,46,43)	FM/AM Tuner Unit(UC)	CWE2046		
L 1604	(A,89,85)	Inductor	CTF1379			Y 1801	(A,46,43)	FM/AM Tuner Unit(EW5)	CWE2045		
L 1605	(B,82,108)	Inductor	CTF1410				(A,124,70)	Tuner Unit(EW5)	CWE1674		
L 1606	(B,84,101)	Inductor	CTF1410			EF1302	(B,90,25)	EMI Filter	CCG1067		
L 1675	(A,77,121)	Chip Coil	LCTAW100J2520			EF1304	(B,73,21)	EMI Filter	CCG1067		
L 1676	(B,95,114)	Inductor	CTF1410			EF1351	(B,68,33)	EMI Filter	CCG1067		
L 1677	(A,70,111)	Inductor	CTF1410			EF1701	(A,98,124)	EMI Filter	CCG1067		
L 1751	(B,30,118)	Chip Ferrite Bead	CTF1399			EF1751	(B,30,130)	EMI Filter	CCG1067		C
L 1801	(B,144,61)	Inductor(EW5)	LCTCR15K2125			EF1901	(A,143,39)	EMI Filter	CCG1172		
L 1802	(B,141,59)	Chip Coil(EW5)	LCTAW1R0J2520			EF1902	(A,122,39)	EMI Filter	CCG1172		
L 1803	(B,113,64)	Inductor(EW5)	LCTAW2R2J2520			EF1903	(A,132,39)	EMI Filter	CCG1172		
L 1804	(B,118,77)	Chip Coil(EW5)	LCTAW1R0J2520			<b><u>RESISTORS</u></b>					
L 1821	(A,159,121)	Inductor	CTF1306			R 1001	(B,111,39)		RS1/16SS750J		
L 1841	(A,148,116)	Inductor	CTF1334			R 1002	(B,111,40)		RS1/16SS103J		
L 1842	(A,146,110)	Inductor	CTF1334			R 1003	(B,111,38)		RS1/16SS103J		
L 1843	(A,146,108)	Inductor(EW5)	CTF1334			R 1004	(B,105,41)		RS1/16SS472J		
L 1844	(A,146,106)	Inductor(EW5)	CTF1334			R 1005	(B,105,39)		RS1/16SS472J		
L 1845	(A,146,104)	Inductor(EW5)	CTF1334			R 1006	(B,104,39)		RS1/16SS512J		D
L 1846	(A,146,103)	Inductor(EW5)	CTF1334			R 1007	(B,103,39)		RS1/16SS102J		
L 1847	(A,163,104)	Inductor(EW5)	CTF1393			R 1008	(B,104,43)		RS1/16SS101J		
L 1848	(A,161,103)	Inductor(EW5)	CTF1393			R 1009	(B,104,41)		RS1/16SS512J		
L 1849	(A,160,117)	Inductor	CTF1393			R 1016	(B,93,40)		RS1/16SS563J		
L 1850	(A,161,115)	Inductor	CTF1334			R 1017	(B,93,38)		RS1/16SS473J		
L 1851	(B,163,110)	Inductor	CTF1334			R 1041	(B,110,45)		RS1/16SS223J		
L 1862	(B,170,118)	Inductor	CTF1334			R 1042	(B,110,48)		RS1/16SS223J		
L 1871	(A,146,86)	Inductor	CTF1334			R 1043	(B,110,44)		RS1/16SS101J		
L 1872	(A,145,115)	Inductor	CTF1393			R 1044	(B,110,46)		RS1/16SS102J		
L 1873	(B,142,85)	Inductor	CTF1393			R 1047	(B,110,50)		RS1/16SS101J		E
L 1881	(A,167,125)	Inductor	CTF1306			R 1048	(B,110,47)		RS1/16SS102J		
L 1891	(A,173,91)	Inductor	CTF1334			R 1103	(B,72,104)		RS1/16S101J		
L 2811	(B,30,18)	Chip Ferrite Bead	CTF1557			R 1104	(B,73,104)		RS1/16S101J		
L 2812	(B,28,18)	Chip Ferrite Bead	CTF1557			R 1105	(B,74,117)		RS1/16S102J		
L 2813	(B,26,17)	Inductor	CTF1334			R 1106	(B,67,117)		RS1/10S101J		
L 2814	(B,19,20)	Inductor	CTF1334			R 1107	(B,69,117)		RS1/10S101J		
L 2831	(B,35,21)	Inductor	CTF1306			R 1108	(B,68,120)		RS1/10S620J		
L 2832	(B,35,17)	Inductor	CTF1306			R 1109	(B,139,116)		RS1/16SS102J		
L 2833	(B,35,14)	Inductor	CTF1306			R 1110	(B,136,116)		RS1/16SS102J		
L 2834	(B,35,10)	Inductor	CTF1306			R 1111	(B,140,116)		RS1/16SS223J		
L 2835	(B,35,8)	Inductor	CTF1306			R 1112	(B,135,116)		RS1/16SS223J		F
L 2836	(B,35,4)	Inductor	CTF1306			R 1113	(B,141,116)		RS1/16SS101J		
L 2850	(B,19,33)	Inductor	CTF1556			R 1114	(B,134,116)		RS1/16SS101J		
L 2851	(B,60,15)	Inductor	CTF1334			R 1115	(B,131,130)		RS1/16S332J		
L 2852	(B,51,11)	Inductor	CTF1334								

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

A	R 1116	(B,128,128)	RS1/16S682J	R 1421	(B,49,33) (EW5)	RS1/16S151J
	R 1117	(B,132,124)	RS1/10S222J	R 1422	(B,50,23) (EW5)	RS1/16S151J
	R 1303	(B,96,34)	RS1/16SS563J	R 1423	(B,46,26) (EW5)	RS1/16S101J
	R 1304	(B,96,32)	RS1/16SS473J	R 1424	(B,53,22) (EW5)	RS1/16S680J
	R 1305	(B,105,26)	RS1/16SS102J	R 1425	(B,107,98) (EW5)	RS1/16SS223J
	R 1306	(B,106,26)	RS1/16SS102J	R 1426	(A,49,77)	RS1/16S681J
	R 1307	(B,104,26)	RS1/16SS223J	R 1427	(B,87,112) (EW5)	RS1/16SS223J
	R 1308	(B,107,26)	RS1/16SS223J	R 1428	(B,53,53)	RS1/16S681J
	R 1317	(B,90,28)	RS1/16SS101J	R 1429	(B,54,64)	RS1/16S681J
	R 1318	(B,87,26)	RS1/16SS101J	R 1430	(B,54,66) (EW5)	RS1/16S681J
B	R 1321	(B,103,26)	RS1/16SS101J	R 1431	(B,54,61)	RS1/16S681J
	R 1322	(B,108,26)	RS1/16SS101J	R 1432	(B,107,99) (EW5)	RS1/16SS223J
	R 1323	(B,99,26)	RS1/16SS512J	R 1433	(B,107,96) (EW5)	RS1/16SS223J
	R 1324	(B,88,24)	RS1/16SS473J	R 1434	(B,40,48) (UC)	RS1/4S0R0J
	R 1325	(B,97,27)	RS1/16SS102J	R 1435	(B,54,76)	RS1/16S223J
	R 1326	(B,101,24)	RS1/16SS101J	R 1437	(A,62,98)	RS1/10S0R0J
	R 1327	(B,101,26)	RS1/16SS512J	R 1438	(A,63,109)	RS1/10S0R0J
	R 1328	(B,99,25)	RS1/16SS472J	R 1439	(A,63,106)	RS1/10S0R0J
	R 1330	(B,99,24)	RS1/16SS472J	R 1501	(B,84,48)	RS1/16S821J
	R 1331	(B,94,27)	RS1/16SS103J	R 1502	(B,84,46)	RS1/16S821J
C	R 1332	(B,94,24)	RS1/16SS103J	R 1505	(B,78,48)	RS1/16S473J
	R 1333	(B,94,25)	RS1/16SS750J	R 1506	(B,78,46)	RS1/16S473J
	R 1337	(B,92,25)	RS1/16SS473J	R 1507	(B,75,48)	RS1/16S0R0J
	R 1347	(B,88,26)	RS1/16SS750J	R 1508	(B,75,46)	RS1/16S0R0J
	R 1351	(B,75,36)	RS1/16SS563J	R 1509	(B,69,43)	RS1/16S0R0J
	R 1352	(B,75,34)	RS1/16SS473J	R 1510	(B,72,43)	RS1/16S0R0J
	R 1353	(B,75,31)	RS1/16SS512J	R 1511	(B,68,50)	RS1/16S0R0J
	R 1354	(B,75,32)	RS1/16SS102J	R 1512	(B,68,48)	RS1/16S0R0J
	R 1355	(B,80,31)	RS1/16SS101J	R 1513	(B,78,43)	RS1/16S562J
	R 1356	(B,80,30)	RS1/16SS512J	R 1514	(B,81,43)	RS1/16S562J
D	R 1357	(B,75,30)	RS1/16SS472J	R 1515	(B,86,43)	RS1/16S562J
	R 1358	(B,75,29)	RS1/16SS472J	R 1516	(B,89,43)	RS1/16S562J
	R 1359	(B,80,25)	RS1/16SS102J	R 1517	(B,87,59)	RS1/16S101J
	R 1360	(B,80,26)	RS1/16SS102J	R 1518	(B,89,59)	RS1/16S101J
	R 1361	(B,69,31)	RS1/16SS103J	R 1519	(B,90,56)	RS1/16S562J
	R 1362	(B,69,30)	RS1/16SS103J	R 1520	(A,95,49)	RS1/16S562J
	R 1363	(B,80,27)	RS1/16SS223J	R 1521	(A,95,47)	RS1/16S562J
	R 1364	(B,80,24)	RS1/16SS223J	R 1522	(B,90,54)	RS1/16S562J
	R 1365	(B,70,31)	RS1/16SS750J	R 1525	(A,101,50)	RS1/16SS0R0J
	R 1366	(B,80,28)	RS1/16SS101J	R 1526	(A,101,45)	RS1/16SS0R0J
E	R 1367	(B,80,23)	RS1/16SS101J	R 1551	(B,77,77)	RS1/16S182J
	R 1368	(B,71,27)	RS1/16S0R0J	R 1552	(B,69,77)	RS1/16S182J
	R 1401	(A,25,33) (EW5)	RS1/16S105J	R 1553	(B,74,77)	RS1/16S471J
	R 1402	(B,60,107)	RS1/16S0R0J	R 1554	(B,72,77)	RS1/16S471J
	R 1403	(B,61,98)	RS1/16S0R0J	R 1555	(B,75,89)	RS1/16S821J
	R 1404	(B,54,59)	RS1/16S681J	R 1556	(B,75,84)	RS1/16S821J
	R 1405	(B,53,56)	RS1/16S681J	R 1557	(B,75,85)	RS1/16S104J
	R 1406	(B,42,31) (EW5)	RS1/16S821J	R 1558	(B,75,87)	RS1/16S104J
	R 1407	(A,49,102)	RS1/16S103J	R 1559	(B,62,54)	RS1/16S102J
	R 1408	(A,49,105)	RS1/16S103J	R 1560	(B,74,70)	RS1/16S102J
F	R 1409	(A,50,105)	RS1/16S104J	R 1561	(B,64,54)	RS1/16S103J
	R 1410	(A,50,102)	RS1/16S104J	R 1562	(B,64,86)	RS1/4S821J
	R 1411	(B,45,30) (EW5)	RS1/16S330J	R 1563	(B,59,80)	RS1/16S223J
	R 1414	(B,55,42) (EW5)	RS1/16S151J	R 1564	(B,72,66)	RS1/16S123J
	R 1415	(B,56,97)	RS1/16S0R0J	R 1565	(B,60,49)	RS1/16S123J
	R 1416	(B,55,108)	RS1/16S0R0J	R 1566	(B,60,80)	RS1/16S223J
	R 1417	(B,58,37) (EW5)	RS1/16S681J	R 1567	(B,58,49)	RS1/16S471J
	R 1418	(B,57,35) (EW5)	RS1/16S152J	R 1568	(B,75,67)	RS1/16S103J
	R 1419	(B,41,27) (EW5)	RS1/16S332J	R 1569	(B,61,78)	RS1/16S101J
	R 1420	(B,53,35) (EW5)	RS1/16S680J	R 1570	(B,75,66)	RS1/16S471J



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<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>		
R 1571	(B,61,84)	RS1/16S473J		R 1661	(B,78,110)	RS1/16SS102J		
R 1572	(B,64,41)	RS1/16S105J		R 1662	(B,85,105)	RS1/16SS393J		
R 1573	(B,69,71)	RS1/16S105J		R 1663	(B,87,105)	RS1/16SS514J		A
R 1574	(A,66,89)	RS1/16S563J		R 1664	(B,79,101)	RS1/16SS473J		
R 1575	(A,69,86)	RS1/16S223J		R 1665	(B,68,98)	RS1/16SS563J		
R 1576	(A,74,29)	RS1/16S750J		R 1667	(A,102,103)	RS1/16SS681J		
R 1577	(B,65,68)	RS1/16S0R0J		R 1668	(A,102,104)	RS1/16SS681J		
R 1579	(A,69,84)	RS1/16S473J		R 1669	(A,84,88)	RS1/16SS681J		
R 1580	(A,66,66)	RS1/16S750J		R 1670	(A,87,88)	RS1/16SS681J		
R 1601	(B,96,82)	RS1/16S473J		R 1671	(B,84,88)	RS1/16SS473J		
R 1602	(B,105,81)	RS1/16SS0R0J		R 1672	(B,88,86)	RS1/16SS473J		
R 1603	(B,106,84)	RS1/16SS0R0J		R 1673	(A,86,88)	RS1/16SS681J		
R 1604	(B,103,91)	RS1/16SS0R0J		R 1674	(A,85,88)	RS1/16SS681J		
R 1605	(A,101,121)	RS1/16SS681J		R 1676	(B,86,117)	RS1/16SS104J		B
R 1607	(B,105,105)	RS1/16SS104J		R 1677	(B,87,117)	RS1/16SS104J		
R 1609	(A,101,96)	RS1/16SS681J		R 1678	(B,88,118)	RS1/16SS104J		
R 1611	(A,102,106)	RS1/16SS681J		R 1679	(B,86,114)	RS1/16SS103J		
R 1612	(A,96,116)	RS1/16SS473J		R 1680	(B,89,116)	RS1/16SS104J		
R 1613	(A,102,105)	RS1/16SS681J		R 1681	(A,91,119)	RS1/16SS103J		
R 1614	(A,102,107)	RS1/16SS681J		R 1682	(A,90,121)	RS1/16SS1003D		
R 1615	(B,101,90)	RS1/16SS473J		R 1683	(B,84,91)	RS1/16SS473J		
R 1616	(B,101,100)	RS1/16SS473J		R 1684	(B,85,91)	RS1/16SS473J		
R 1618	(A,95,111)	RS1/16SS681J		R 1687	(A,102,109)	RS1/16SS0R0J		
R 1619	(A,102,94)	RAB4C681J		R 1688	(A,98,114)	RS1/16SS473J		
R 1620	(A,102,99) (EW5)	RAB4C681J		R 1690	(A,78,102)	RS1/16SS101J		C
R 1621	(A,103,121)	RS1/16SS681J		R 1691	(A,78,101)	RS1/16SS101J		
R 1622	(B,108,96)	RS1/16SS473J		R 1692	(A,78,100)	RS1/16SS101J		
R 1623	(B,98,114)	RS1/16SS104J		R 1693	(A,78,99)	RS1/16SS101J		
R 1624	(B,108,103)	RS1/16SS473J		R 1694	(A,78,90)	RS1/16SS681J		
R 1625	(B,79,99)	RS1/16SS473J		R 1695	(A,78,91)	RS1/16SS681J		
R 1626	(B,97,88)	RS1/16SS473J		R 1696	(A,78,92)	RS1/16SS681J		
R 1627	(A,96,88)	RS1/16SS681J		R 1697	(A,78,93)	RS1/16SS681J		
R 1628	(A,96,111)	RS1/16SS681J		R 1698	(B,91,117)	RS1/16SS104J		
R 1629	(A,95,88)	RS1/16SS681J		R 1699	(B,81,119)	RS1/16SS103J		
R 1631	(B,94,91)	RS1/16SS473J		R 1702	(A,99,122)	RS1/16S0R0J		
R 1632	(A,93,88)	RS1/16SS681J		R 1703	(A,72,108)	RS1/16SS103J		D
R 1633	(B,93,111)	RS1/16SS681J		R 1704	(A,72,106)	RS1/16SS103J		
R 1634	(A,91,88)	RS1/16SS681J		R 1751	(B,51,114)	RS1/16S0R0J		
R 1635	(B,94,108)	RS1/16SS473J		R 1752	(B,51,112)	RS1/16S0R0J		
R 1638	(A,85,111)	RS1/16SS473J		R 1753	(B,24,133)	RS1/16S0R0J		
R 1639	(A,84,111) (EW5)	RS1/16SS681J		R 1754	(B,51,117)	RS1/16S0R0J		
R 1640	(A,83,111) (EW5)	RS1/16SS0R0J		R 1755	(B,30,133)	RS1/16S0R0J		
R 1641	(A,83,88)	RS1/16SS470J		R 1756	(B,20,133)	RS1/16S0R0J		
R 1642	(A,82,88)	RS1/16SS470J		R 1757	(B,51,118)	RS1/16S0R0J		
R 1643	(B,83,88)	RS1/16SS103J		R 1758	(B,51,115)	RS1/16S0R0J		
R 1644	(B,82,88)	RS1/16SS103J		R 1759	(B,33,133)	RS1/16S0R0J		
R 1645	(A,78,96)	RAB4C681J		R 1760	(B,23,133)	RS1/16S0R0J		E
R 1647	(B,82,111)	RS1/16SS473J		R 1761	(B,21,133)	RS1/16S0R0J		
R 1648	(B,78,113)	RS1/16SS102J		R 1762	(B,25,131)	RS1/16SS101J		
R 1649	(A,72,95)	RS1/16SS473J		R 1763	(B,31,127)	RS1/16SS750J		
R 1650	(A,78,108)	RS1/16SS472J		R 1764	(B,32,128)	RS1/16SS473J		
R 1651	(A,78,106)	RS1/16SS681J		R 1765	(B,20,131)	RS1/16SS101J		
R 1652	(A,78,107)	RS1/16SS681J		R 1766	(B,24,131)	RS1/16SS223J		
R 1653	(B,96,88)	RS1/16SS473J		R 1767	(B,21,131)	RS1/16SS223J		
R 1655	(B,77,110)	RS1/16SS473J		R 1768	(B,23,131)	RS1/16SS102J		
R 1656	(A,78,94)	RS1/16SS681J		R 1769	(B,22,131)	RS1/16SS102J		
R 1657	(A,76,106)	RS1/16SS473J		R 1770	(B,30,128)	RS1/16SS473J		F
R 1658	(A,76,108)	RS1/16SS472J		R 1771	(B,29,124)	RS1/16SS101J		
R 1659	(A,76,107)	RS1/16SS473J		R 1772	(B,34,124)	RS1/16SS101J		
R 1660	(B,72,95)	RS1/16SS473J		R 1774	(B,96,101)	RS1/16S473J		

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

R 1775 (B,124,102)  
R 1776 (B,125,104)

RS1/16S103J  
RS1/4SA271J

R 1911 (A,175,70)  
R 1913 (B,162,48)

RS1/16S122J  
RS1/10S0R0J

A R 1777 (B,131,104)  
R 1778 (B,124,100)  
R 1779 (A,115,110)  
R 1780 (B,131,100)  
R 1781 (A,126,106)

RS1/4SA271J  
RS1/16S102J  
RS2PMFR47J  
RS1/16S103J  
RS1/8S0R0J

R 1914 (B,162,46)  
R 1915 (B,168,62)  
R 1916 (A,175,60)  
R 1918 (B,164,56)  
R 1919 (B,169,58)

RS1/10S0R0J  
RS1/16SS471J  
RS1/16S223J  
RS1/16SS223J  
RS1/16SS471J

R 1782 (A,131,114)  
R 1783 (A,131,109)  
R 1784 (A,137,113)  
R 1785 (A,130,118)  
R 1786 (A,140,115)

RS1/4SA271J  
RS1/4SA271J  
RS1/16S103J  
RS1/16S103J  
RS1/16S103J

R 1950 (B,111,86)  
R 1954 (B,150,46)  
R 2821 (B,45,26)  
R 2831 (B,45,22)  
R 2832 (B,45,17)

RS1/4S471J  
RS1/16S122J  
RS1/16S102J  
RS1/16S821J  
RS1/16S821J

B R 1787 (A,140,118)  
R 1788 (A,136,117)  
R 1790 (B,17,114)  
R 1791 (A,56,114)  
R 1793 (B,63,122)

RS1/16S103J  
RS1/16S124J  
RS1/16S0R0J  
RS1/16S0R0J  
RS1/10S0R0J

R 2833 (B,41,21)  
R 2834 (B,41,17)  
R 2837 (B,45,15)  
R 2838 (B,45,10)  
R 2839 (B,41,14)

RS1/16S223J  
RS1/16S223J  
RS1/16S821J  
RS1/16S821J  
RS1/16S223J

R 1801 (B,148,61) (EW5)  
R 1802 (B,145,61) (EW5)  
R 1803 (B,147,61) (EW5)  
R 1806 (B,124,65) (EW5)  
R 1807 (A,141,75) (EW5)

RS1/16S152J  
RS1/16S151J  
RS1/16S681J  
RS1/16S0R0J  
RS1/10S391J

R 2840 (B,41,10)  
R 2843 (B,45,8)  
R 2844 (B,45,3)  
R 2845 (B,41,8)  
R 2846 (B,41,4)

RS1/16S223J  
RS1/16S821J  
RS1/16S821J  
RS1/16S223J  
RS1/16S223J

C R 1808 (B,132,60) (EW5)  
R 1810 (B,119,65) (EW5)  
R 1821 (A,147,130)  
R 1822 (B,160,123)  
R 1823 (B,160,121)

RS1/16S473J  
RS1/16S472J  
RS1/16S0R0J  
RS1/16S333J  
RS1/16S203J

R 2851 (B,22,33)  
R 2873 (B,23,14)  
R 2886 (B,28,9)  
R 2887 (B,26,9)  
R 2888 (B,31,12)

RS1/10S103J  
RS1/16S0R0J  
RS1/16S473J  
RS1/16S104J  
RS1/10S102J

R 1824 (A,151,123)  
R 1825 (B,150,119)  
R 1826 (A,147,121)  
R 1827 (A,147,125)  
R 1828 (A,146,119)

RS1/16S822J  
RS1/16S202J  
RS1/16S564J  
RS1/16S513J  
RS1/16S513J

R 2892 (B,18,33)

RS1/16S0R0J

**CAPACITORS**

C 1001 (B,132,13)  
C 1002 (B,132,8)  
C 1003 (B,137,8)  
C 1004 (B,137,13)  
C 1005 (B,126,22)

CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50

C 1006 (B,134,22)  
C 1007 (B,124,27)  
C 1008 (B,133,27)  
C 1009 (B,123,27)  
C 1010 (B,132,22)

CKSRYF104Z25  
CCSRCH101J50  
CKSRYF104Z25  
CCSRCH101J50  
CKSRYF104Z25

C 1012 (B,128,8)  
C 1014 (B,127,13)  
C 1016 (B,131,27)  
C 1018 (B,130,22)  
C 1020 (B,129,27)

CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50

C 1022 (B,108,41) 10  $\mu$ F  
C 1023 (B,108,39) 10  $\mu$ F  
C 1026 (B,103,41)  
C 1027 (B,135,27)  
C 1031 (B,94,38)

CCG1203  
CCG1203  
CCSRCJ3R0C50  
CKSRYF104Z25  
CKSRYB105K10

C 1032 (A,100,41)  
C 1033 (B,98,44)  
C 1041 (B,108,45)  
C 1042 (B,108,46)  
C 1043 (B,108,48)

CEVW100M16  
CKSRYB104K50  
CKSRYB105K10  
CKSRYB105K10  
CKSRYB105K10

F R 1881 (A,164,127)  
R 1884 (A,164,114)  
R 1886 (A,163,112)  
R 1892 (B,170,95)  
R 1894 (B,170,97)

RS1/4S102J  
RS1/16S0R0J  
RS1/16S0R0J  
RS1/16S104J  
RS1/16S202J

C 1044 (B,108,49)  
C 1045 (A,109,46)  
C 1046 (A,104,45)  
C 1101 (B,73,115)

CKSRYB105K10  
CEVW220M16  
CEVW100M16  
CKSRYB104K50

R 1871 (B,171,106)  
R 1872 (B,168,105)  
R 1873 (B,168,101)  
R 1874 (B,165,101)  
R 1875 (B,163,97)

RS1/10S103J  
RS1/10S103J  
RN1/16SE1001D  
RN1/16SE1101D  
RN1/16SE1001D

R 1881 (A,164,127)  
R 1884 (A,164,114)  
R 1886 (A,163,112)  
R 1892 (B,170,95)  
R 1894 (B,170,97)

RS1/4S102J  
RS1/16S0R0J  
RS1/16S0R0J  
RS1/16S104J  
RS1/16S202J

R 1895 (B,168,98)  
R 1901 (B,81,77)  
R 1903 (B,83,77)  
R 1905 (B,165,35)  
R 1906 (B,163,33)

RS1/16S0R0J  
RS1/16S102J  
RS1/16S272J  
RS1/16S153J  
RS1/4S102J

R 1907 (A,175,41)  
R 1909 (A,175,45)  
R 1910 (B,166,61)

RS1/10S181J  
RS1/10S181J  
RS1/16SS221J

5			6			7			8		
<u>Circuit Symbol and No.</u>			<u>Part No.</u>			<u>Circuit Symbol and No.</u>			<u>Part No.</u>		
C 1102	(A,138,108)		CEVW100M16			C 1424	(A,56,86)		CKSRYB103K50		
C 1103	(A,137,101)		CEVW220M16			C 1426	(B,88,113) (EW5)		CKSRYB103K50		A
C 1106	(B,141,114)		CKSRYB105K10			C 1429	(B,61,103)		CKSRYB103K50		
C 1107	(B,139,114)		CKSRYB105K10			C 1430	(A,56,77)		CKSRYB104K50		
C 1108	(B,136,114)		CKSRYB105K10			C 1431	(A,59,103)		CEVW100M16		
C 1109	(B,134,114)		CKSRYB105K10			C 1432	(A,34,23) (EW5)		CKSRYB103K50		
C 1112	(B,117,116)		CCSRCH471J50			C 1433	(B,49,29) (EW5)		CKSRYB222K50		
C 1113	(B,116,116)		CCSRCH471J50			C 1434	(A,44,24) (EW5)		CKSRYB222K50		
C 1117	(B,107,116)		CKSRYB104K50			C 1435	(B,48,22) (EW5)		CKSRYB222K50		
C 1118	(B,106,116)		CKSRYB104K50			C 1436	(B,106,101) (EW5)		CKSRYB103K50		
C 1302	(B,93,32)		CKSRYB104K50			C 1437	(B,59,40) (EW5)		CKSRYB103K50		
C 1305	(A,108,25)		CEVW100M16			C 1438	(B,52,40) (EW5)		CKSRYB222K50		
C 1306	(A,108,31)		CEVW220M16			C 1442	(A,53,60)		CEVW331M10		
C 1307	(B,102,34)		CKSRYB104K50			C 1501	(B,87,48)		CKSRYB222K50		B
C 1308	(A,101,25)		CEVW100M16			C 1502	(B,87,46)		CKSRYB222K50		
C 1309	(B,95,33)		CKSRYB105K10			C 1505	(B,81,49)		CKSQYB225K10		
C 1310	(B,103,28)		CKSRYB105K10			C 1506	(B,81,46)		CKSQYB225K10		
C 1314	(B,88,28) 10 µF		CCG1203			C 1507	(B,74,43)		CKSQYB105K16		
C 1319	(B,104,28)		CKSRYB105K10			C 1508	(B,71,43)		CKSQYB105K16		
C 1320	(B,92,28) 10 µF		CCG1203			C 1509	(B,67,52)		CKSQYB105K16		
C 1321	(B,106,28)		CKSRYB105K10			C 1510	(B,69,52)		CKSQYB105K16		
C 1322	(B,108,28)		CKSRYB105K10			C 1511	(B,68,37)		CKSQYB105K16		
C 1329	(B,100,28)		CCSRCJ3R0C50			C 1512	(B,68,43)		CKSQYB105K16		
C 1331	(B,96,26) 10 µF		CCG1203			C 1513	(A,72,64)		CEVW100M16		
C 1332	(B,96,24) 10 µF		CCG1203			C 1514	(B,76,43)		CKSQYB105K16		C
C 1334	(B,101,20)		CCSRCH471J50			C 1515	(B,79,43)		CKSQYB105K16		
C 1337	(B,93,20)		CCSRCH471J50			C 1516	(B,83,61)		CKSRYB103K50		
C 1351	(B,80,35)		CKSRYB104K50			C 1517	(A,91,66)		CEVW220M16		
C 1352	(A,80,30)		CEVW100M16			C 1518	(B,83,43)		CKSQYB105K16		
C 1353	(B,74,35)		CKSRYB105K10			C 1519	(B,85,43)		CKSQYB105K16		
C 1354	(A,95,25)		CEVW100M16			C 1520	(B,88,43)		CKSQYB105K16		
C 1355	(A,95,31)		CEVW220M16			C 1521	(B,91,43)		CKSQYB105K16		
C 1357	(B,78,30)		CCSRCJ3R0C50			C 1522	(A,98,45)		CKSQYB105K16		
C 1359	(B,83,25)		CKSRYB105K10			C 1523	(B,87,56)		CKSQYB105K16		
C 1360	(B,83,28)		CKSRYB105K10			C 1524	(A,98,49)		CKSQYB105K16		
C 1361	(B,83,27)		CKSRYB105K10			C 1525	(A,98,47)		CKSQYB105K16		D
C 1362	(B,83,23)		CKSRYB105K10			C 1526	(B,87,54)		CKSQYB105K16		
C 1363	(B,72,30) 10 µF		CCG1203			C 1551	(B,76,77)		CKSRYB222K50		
C 1364	(B,72,32) 10 µF		CCG1203			C 1552	(B,71,77)		CKSRYB222K50		
C 1401	(B,60,109)		CKSQYB225K10			C 1553	(B,67,77)		CKSRYB103K50		
C 1402	(B,61,97)		CKSQYB225K10			C 1554	(A,76,80)		CEVW100M16		
C 1403	(A,26,35) (EW5)		CCSRCH270J50			C 1555	(A,70,80)		CEVW100M16		
C 1404	(B,55,86)		CKSYB475K16			C 1556	(B,63,54)		CCSRCH7R0D50		
C 1405	(B,53,79)		CKSRYB103K50			C 1557	(B,75,70)		CKSRYB104K50		
C 1406	(A,28,35) (EW5)		CCSRCH220J50			C 1558	(B,72,67)		CCSRCJ3R0C50		
C 1407	(B,53,87)		CKSRYB103K50			C 1559	(B,62,50)		CKSRYB104K50		E
C 1408	(B,42,51)		CKSRYB103K50			C 1560	(A,61,54)		CEVW101M16		
C 1409	(A,31,33) (EW5)		CCSRCH270J50			C 1561	(A,76,71)		CEVW101M16		
C 1410	(A,51,95)		CEVW470M6R3			C 1562	(A,64,80)		CEVW220M16		
C 1411	(A,53,49)		CEVW331M10			C 1563	(B,62,43)		CKSYB475K16		
C 1412	(A,33,33) (EW5)		CCSRCH330J50			C 1564	(B,69,74)		CKSYB475K16		
C 1413	(A,35,35) (EW5)		CCSRCH470J50			C 1565	(B,64,38)		CKSRYB103K50		
C 1414	(B,42,29) (EW5)		CKSRYB103K50			C 1566	(A,64,38)		CEVW470M16		
C 1415	(A,57,65)		CKSRYB103K50			C 1567	(B,69,68)		CKSRYB103K50		
C 1418	(A,54,103)		CEVW100M16			C 1568	(A,69,25)		CEVW330M10		
C 1419	(B,59,39) (EW5)		CKSRYB103K50			C 1569	(A,69,31)		CEVW101M4		
C 1420	(B,55,49) (EW5)		CCSRCH270J50			C 1570	(A,68,70)		CEVW470M16		F
C 1421	(A,50,32) (EW5)		CKSRYB103K50			C 1571	(A,62,70)		CEVW330M10		
C 1422	(B,54,45) (EW5)		CCSRCH150J50			C 1572	(A,62,63)		CEVW101M4		
C 1423	(A,51,89)		CEVW220M16			C 1604	(B,96,84)		CKSRYB104K50		

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

A	C 1605	(A,102,82)	CEVW100M16	C 1878	(B,142,92)	CKSRF104Z25
	C 1606	(A,92,118)	CKSRB103K50	C 1879	(B,142,88)	CKSRB474K10
	C 1608	(A,99,84)	CKSRB103K50	C 1880	(A,148,86)	CKSRB104K50
	C 1610	(A,95,84)	CKSRB103K50	C 1881	(A,164,131)	CKSRB104K50
	C 1611	(A,95,119)	CKSRB222K50	C 1882	(A,144,97)	CEVW470M16
	C 1612	(B,99,86)	CKSRB104K50	C 1890	(A,172,93)	CKSRB104K50
	C 1614	(A,95,114)	CKSRB104K50	C 1892	(B,168,96)	CKSRB104K50
	C 1616	(B,98,105)	CKSRB102K50	C 1893	(B,174,103)	CKSRB103K50
	C 1617	(A,102,102)	CKSRB104K50	C 1901	(A,143,47)	CEVW101M16
	C 1618	(A,97,118)	CKSRB104K50	C 1902	(A,122,46)	CEVW101M16
B	C 1619	(A,93,111)	CKSRB103K50	C 1903	(A,82,83)	CKSRB104K50
	C 1620	(B,89,113)	CKSRB102K50	C 1905	(A,121,42)	CKSRB103K50
	C 1621	(A,89,88)	CKSRB102K50	C 1906	(A,142,42)	CKSRB103K50
	C 1622	(A,70,95)	CKSRB104K50	C 1907	(B,165,40)	CKSRB103K50
	C 1623	(B,81,107)	CKSRB104K50	C 1908	(A,166,40)	CEVW101M16
	C 1624	(B,83,101)	CKSRB104K50	C 1910	(A,171,51)	CEVW101M16
	C 1625	(A,89,87)	CKSRB104K50	C 1911	(B,166,59)	CKSRB104K50
	C 1626	(A,88,113)	CKSRB104K50	C 1912	(B,169,46)	CKSRB103K50
	C 1675	(A,79,120)	CKSRB104K50	C 1913	(B,167,65)	CKSRB103K50
	C 1676	(B,82,118)	CCSRCJ3R0C50	C 1914	(B,169,40)	CKSRB103K50
C	C 1677	(B,84,117)	CCSRCJ3R0C50	C 1915	(A,167,62)	CEVW101M16
	C 1678	(B,95,116)	CKSRB104K50	C 1916	(A,163,48)	CEVW101M16
	C 1679	(A,70,110)	CKSRB104K50	C 1917	(A,132,46)	CEVW101M16
	C 1694	(B,81,91)	CCSRCH101J50	C 1918	(A,131,42)	CKSRB103K50
	C 1760	(B,30,125) 10 µF	CCG1203	C 1920	(B,167,68)	CKSRB103K50
	C 1761	(B,33,125) 10 µF	CCG1203	C 1921	(B,167,66)	CKSRB103K50
	C 1762	(B,24,128)	CKSRB105K10	C 1922	(A,174,87)	CKSRB104K50
	C 1763	(B,23,128)	CKSRB105K10	C 1923	(A,166,73)	CEVW470M16
	C 1764	(B,21,128)	CKSRB105K10	C 1924	(A,170,89)	CKSRB103K50
	C 1765	(B,20,128)	CKSRB105K10	C 1925	(A,162,94)	CEVW220M16
D	C 1766	(B,29,121)	CKSRB104K50	C 1950	(A,128,85)	CEVW101M16
	C 1767	(A,22,124)	CEVW220M16	C 1951	(B,109,91)	CKSRB103K50
	C 1768	(A,22,131)	CEVW100M16	C 1952	(A,118,92)	CKSRB103K50
	C 1769	(A,63,117) 10 µF	CCG1223	C 1953	(A,126,95)	CEVW101M16
	C 1770	(B,61,118)	CKSRB102K50	C 1954	(A,152,47)	CEVW101M16
	C 1772	(A,130,103) 10 µF	CCG1223	C 1955	(B,153,48)	CKSRB103K50
	C 1801	(B,150,61) (EW5)	CKSRB222K50	C 1956	(B,156,42)	CKSRB103K50
	C 1802	(B,144,59) (EW5)	CKSRB103K50	C 1957	(A,152,40)	CEVW101M16
	C 1803	(B,144,65) (EW5)	CCSRCH220J50	C 1981	(B,60,90)	CKSRB104K50
	C 1805	(A,137,77) (EW5)	CEVW100M16	C 1982	(B,66,97)	CKSRB103K50
E	C 1806	(A,134,76) (EW5)	CKSRB473K50	C 1983	(A,65,92)	CEVW100M16
	C 1807	(A,146,78) (EW5)	CEVW220M16	C 2813	(B,25,17)	CKSRF104Z25
	C 1808	(B,124,77) (EW5)	CKSRB103K50	C 2814	(B,20,18)	CKSRF104Z25
	C 1809	(B,130,66) (EW5)	CKSRB103K50	C 2822	(A,54,22)	CEVW470M16
	C 1810	(B,134,66) (EW5)	CKSRB473K50	C 2831	(A,46,19)	CEVW100M25
	C 1811	(B,114,66) (EW5)	CKSRB103K50	C 2832	(A,38,19)	CEVW100M25
	C 1812	(B,119,63) (EW5)	CKSRB473K50	C 2835	(B,35,20)	CKSRB102K50
	C 1813	(A,132,76) 10 µF(EW5)	CCG1220	C 2836	(B,35,18)	CKSRB102K50
	C 1821	(B,158,120)	CKSRB823K16	C 2837	(A,46,12)	CEVW100M25
	C 1822	(A,142,130)	CKSRB104K50	C 2838	(A,38,12)	CEVW100M25
F	C 1823	(B,156,120)	CKSRB103K50	C 2841	(B,35,13)	CKSRB102K50
	C 1824	(A,147,123)	CKSRB104K50	C 2842	(B,35,12)	CKSRB102K50
	C 1825	(A,148,127)	CKSRB102K50	C 2843	(A,46,6)	CEVW100M25
	C 1868	(B,171,118)	CKSRB104K50	C 2844	(A,38,6)	CEVW100M25
	C 1869	(A,166,114)	CKSRB334K10	C 2847	(B,35,6)	CKSRB102K50
	C 1872	(A,144,86)	CKSRB104K50	C 2848	(B,35,5)	CKSRB102K50
	C 1873	(A,144,85)	CKSRB334K10	C 2851	(B,20,33)	CKSRF103Z50
	C 1874	(A,148,114)	CKSRF103Z50	C 2886	(B,27,12)	CKSRF104Z25
	C 1876	(A,153,88)	CEVW470M16	C 2887	(B,26,21)	CKSRF104Z25
	C 1877	(B,141,88)	CKSRB104K50			

5			6			7			8		
<u>Circuit Symbol and No.</u>			<u>Part No.</u>			<u>Circuit Symbol and No.</u>			<u>Part No.</u>		
<b>M</b>						<b>D</b>					
<b>Unit Number : CXX2316</b>						<b>Unit Number : CWX3401</b>					
<b>Unit Name : Main PCB Unit(SERVICE)</b>						<b>Unit Name : DVD Core Unit</b>					
<b><u>MISCELLANEOUS</u></b>						<b><u>MISCELLANEOUS</u></b>					
IC 101	Regulator		BA00CC0WFP			IC 1001	(B,79,55) IC		BD9851EFV		
IC 102	IC		BA6247FP			IC 1003	(B,72,42) IC		S-80859CNNB-B9K		
IC 103	Photo-interrupter		GP2L24B			IC 1004	(B,75,48) Regulator IC		NJM2880U1-05		
IC 104	IC		TC7W14FU			IC 1005	(B,61,58) IC		S-L2980A50MC-C7J		
IC 105	Photo-interrupter		GP2L24B			IC 1201	(A,26,15) IC		BD7996EFV		
Q 101	Chip Transistor		DTC124EUA			IC 1301	(B,90,27) IC		TC7SZ125FU		
D 101	Diode		UDZS5R6(B)			IC 1351	(B,86,27) IC		TC7SZ08FU		
<b><u>RESISTORS</u></b>						IC 1352	(B,79,14) IC		TC74LCX16373FT		
R 101			RS1/16S102J			IC 1401	(B,61,32) Flash ROM Unit		CWW1430		
R 102			RS1/16S3302D			IC 1402	(B,37,10) Flash ROM Unit		CWW1431		
R 103			RS1/16S3900D			IC 1403	(B,47,29) IC		TC7SZ32FU		
R 104			RS1/16S4701D			IC 1481	(B,60,12) IC		EDS1232AATA-75		
R 105			RS1/16S471J			IC 1501	(A,60,19) IC		MN2DS0016AAUB		
R 106			RS1/16S102J			IC 1801	(A,70,53) D/A Converter		PCM1753DBQ		
R 107			RS1/16S102J			Q 1001	(B,77,67) FET		RSQ030P03		
R 108			RS1/16S102J			Q 1003	(B,85,67) FET		QS5U27		
R 109			RS1/16S102J			Q 1101	(B,62,50) Transistor		2SC4081		
R 110			RS1/16S102J			Q 1102	(B,68,50) Transistor		2SC4081		
R 111			RS1/16S562J			Q 1103	(B,60,45) Transistor		2SB1260		
R 112			RS1/16S102J			Q 1104	(B,67,45) Transistor		2SB1260		
R 113			RS1/16S102J			D 1001	(B,80,64) Chip Diode		RB050L-40		
R 114			RS1/16S102J			D 1002	(A,89,67) Diode		1SR154-400		
R 115			RS1/16S562J			D 1301	(B,13,10) Chip LED		CL2051RXTU		
R 116			RS1/16S102J			L 1001	(B,73,62) Inductor		CTF1678		
R 117			RS1/16S472J			L 1002	(B,83,72) Inductor		CTF1677		
<b><u>CAPACITORS</u></b>						L 1003	(B,86,62) Inductor		CTF1681		
C 101			CKSYB475K16			L 1004	(B,63,60) Inductor		CTF1558		
C 102			CKSYB475K16			L 1005	(B,81,49) Inductor		CTF1558		
C 103			CKSRYB104K16			L 1101	(B,66,54) Inductor		CTF1305		
C 104			CKSRYB104K16			L 1482	(B,77,29) Inductor		CTF1473		
C 105			CKSRYB223K16			L 1502	(A,71,47) Inductor		CTF1378		
C 106			CKSRYB104K16			L 1503	(A,60,47) Inductor		CTF1487		
C 107			CKSRYB223K16			L 1504	(A,35,10) Inductor		CTF1387		
C 108			CEVW101M16			L 1511	(A,63,3) Inductor		CTF1680		
C 109			CKSRYB104K16			L 1601	(A,41,23) Inductor		CTF1473		
C 110			CCSRCH102J50			L 1602	(A,55,42) Inductor		CTF1473		
C 111			CCSRCH102J50			L 1603	(A,54,42) Inductor		CTF1473		
<b>N</b>						L 1604	(A,52,42) Inductor		CTF1473		
<b>Unit Number : CZW5029</b>						L 1605	(A,38,32) Inductor		CTF1395		
<b>Unit Name : Switch PCB Unit</b>						L 1671	(A,41,19) Inductor		CTF1473		
S 101	Switch(Angle SW)		CSN1068			L 1672	(A,41,20) Inductor		CTF1473		
<b>O</b>						L 1673	(A,41,21) Inductor		CTF1473		
<b>Unit Number : CZW5028</b>						L 1801	(A,70,61) Inductor		CTF1473		
<b>Unit Name : Volume PCB Unit</b>						L 1901	(A,91,73) Inductor		CTF1487		
VR101	Volume(Angle sense)		CCW1025			L 1902	(A,91,62) Inductor		CTF1558		
						X 1501	(A,40,16) Cystal 27.000 MHz		CSS1714		
						VR1671	(A,35,20) Semi-fixed 10 kohm(B)		CCP1448		
						EF1501	(A,68,47) Chip EMI Filter		DTL1106		
						EF1502	(A,61,45) Chip EMI Filter		DTL1106		
						EF1901	(A,87,74) Chip EMI Filter		DTF1106		
						EF1903	(A,91,65) Chip EMI Filter		DTL1106		
						<b><u>RESISTORS</u></b>					

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

A	R 1001	(B,70,55)	RS1/16SS101J	R 1301	(B,14,14)	RS1/16SS391J
	R 1002	(B,72,51)	RS1/16SS103J	R 1302	(B,16,14)	RS1/16SS471J
	R 1003	(B,72,55)	RS1/16SS122J	R 1304	(B,87,23)	RS1/16SS563J
	R 1005	(B,72,52)	RS1/16SS153J	R 1305	(B,86,23)	RS1/16SS243J
	R 1006	(B,73,54)	RS1/16SS471J	R 1306	(B,85,23)	RS1/16SS683J
	R 1007	(B,73,55)	RS1/16SS8201D	R 1307	(B,88,23)	RS1/16SS243J
	R 1008	(B,70,56)	RS1/16SS4702D	R 1314	(B,86,21)	RAB4CQ822J
	R 1009	(B,72,56)	RS1/16SS561J	R 1351	(B,84,25)	RS1/16SS331J
	R 1010	(B,74,51)	RS1/16SS472J	R 1401	(B,72,33)	RS1/16SS221J
	R 1011	(B,72,40)	RS1/16SS104J	R 1402	(B,50,27)	RS1/16SS104J
B	R 1013	(B,87,54)	RS1/16SS682J	R 1405	(B,48,10)	RS1/16SS221J
	R 1017	(B,88,54)	RS1/16SS1002D	R 1406	(B,26,4)	RS1/16SS104J
	R 1018	(B,88,53)	RS1/16SS472J	R 1407	(B,26,6)	RS1/16SS104J
	R 1019	(B,87,53)	RS1/16SS2202D	R 1410	(B,47,32)	RS1/16SS104J
	R 1020	(B,87,52)	RS1/16SS102J	R 1501	(B,71,3)	RAB4CQ560J
	R 1021	(B,87,51)	RS1/16SS101J	R 1503	(A,72,3)	RS1/16SS560J
	R 1026	(B,78,61)	RS1/16SS100J	R 1505	(B,68,3)	RAB4CQ560J
	R 1027	(B,77,61)	RS1/16SS100J	R 1507	(B,65,3)	RAB4CQ560J
	R 1101	(B,63,53)	RS1/16SS391J	R 1512	(B,59,3)	RAB4CQ560J
	R 1102	(B,63,47)	RS1/16SS511J	R 1513	(A,44,4)	RS1/16SS102J
C	R 1103	(B,67,53)	RS1/16SS391J	R 1515	(A,43,3)	RS1/16SS102J
	R 1104	(B,69,47)	RS1/16SS561J	R 1520	(A,35,8)	RS1/16SS221J
	R 1107	(B,61,53)	RS1/16SS6R8J	R 1521	(A,41,12)	RAB4CQ101J
	R 1108	(B,65,53)	RS1/16SS6R8J	R 1522	(B,56,3)	RAB4CQ560J
	R 1109	(B,58,41)	RS1/10S1R5J	R 1523	(A,39,11)	RS1/16SS101J
	R 1110	(B,63,41)	RS1/10S1R5J	R 1524	(A,39,13)	RS1/16SS101J
	R 1111	(B,70,41)	RS1/10S1R5J	R 1525	(B,53,3)	RAB4CQ560J
	R 1112	(B,65,41)	RS1/10S1R5J	R 1526	(A,36,11)	RS1/16SS270J
	R 1113	(B,61,41)	RS1/10S1R5J	R 1528	(A,43,14)	RS1/16SS101J
	R 1114	(B,59,41)	RS1/10S1R5J	R 1529	(B,54,22)	RAB4CQ560J
D	R 1115	(B,66,41)	RS1/10S1R5J	R 1530	(A,43,15)	RS1/16SS105J
	R 1116	(B,68,41)	RS1/10S1R5J	R 1531	(B,50,22)	RAB4CQ560J
	R 1117	(B,64,49)	RS1/16SS104J	R 1532	(A,77,23)	RS1/16SS103J
	R 1118	(B,70,49)	RS1/16SS104J	R 1533	(A,76,27)	RS1/16SS103J
	R 1202	(A,19,12)	RS1/16SS221J	R 1534	(A,77,26)	RS1/16SS103J
	R 1203	(A,19,11)	RS1/16SS221J	R 1535	(A,63,36)	RS1/16SS221J
	R 1210	(A,30,27)	RS1/16SS101J	R 1537	(A,67,41)	RS1/16SS221J
	R 1211	(B,26,18)	RS1/16SS3R9J	R 1538	(A,66,41)	RS1/16SS221J
	R 1212	(B,27,18)	RS1/16SS3R9J	R 1540	(A,71,44)	RS1/16SS102J
	R 1214	(B,28,18)	RS1/16SS3R9J	R 1541	(A,64,41)	RS1/16SS472J
	R 1215	(B,29,18)	RS1/16SS3R9J	R 1542	(A,60,36)	RS1/16SS223J
	R 1216	(B,30,18)	RS1/16SS3R9J	R 1543	(A,59,38)	RS1/16SS332J
	R 1217	(B,31,18)	RS1/16SS3R9J	R 1544	(A,57,41)	RS1/16SS183J
	R 1219	(A,20,27)	RS1/16SS101J	R 1545	(A,61,36)	RS1/16SS223J
	R 1223	(A,19,4)	RS1/16SS753J	R 1546	(A,59,42)	RS1/16SS104J
E	R 1225	(A,19,7)	RS1/16SS753J	R 1547	(A,59,41)	RS1/16SS473J
	R 1227	(B,13,21)	RS1/16SS3R9J	R 1548	(A,59,36)	RS1/16SS104J
	R 1228	(B,14,21)	RS1/16SS3R9J	R 1554	(A,60,40)	RS1/16SS221J
	R 1229	(B,15,21)	RS1/16SS3R9J	R 1555	(A,58,38)	RS1/16SS221J
	R 1230	(B,16,21)	RS1/16SS3R9J	R 1556	(A,43,8)	RS1/16SS104J
	R 1231	(B,17,21)	RS1/16SS3R9J	R 1557	(A,57,40)	RS1/16SS104J
	R 1232	(B,18,21)	RS1/16SS3R9J	R 1559	(A,63,41)	RS1/16SS221J
	R 1233	(B,19,21)	RS1/16SS3R9J	R 1560	(A,68,42)	RAB4CQ104J
	R 1234	(B,20,21)	RS1/16SS3R9J	R 1562	(A,64,38)	RAB4CQ104J
	R 1240	(B,32,18)	RS1/16SS3R9J	R 1565	(A,73,36)	RS1/16SS103J
F	R 1241	(B,33,18)	RS1/16SS3R9J	R 1566	(A,72,36)	RS1/16SS103J
	R 1242	(B,34,18)	RS1/16SS3R9J	R 1567	(B,68,22)	RAB4CQ560J
	R 1243	(B,38,18)	RS1/16SS3R9J	R 1568	(B,65,22)	RAB4CQ560J
	R 1244	(B,36,18)	RS1/16SS3R9J	R 1569	(B,62,3)	RAB4CQ560J
	R 1245	(B,35,18)	RS1/16SS3R9J	R 1570	(B,60,22)	RAB4CQ560J

5		6		7		8		
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>		
R 1571	(B,57,22)	RAB4CQ560J		C 1009	(B,82,67) 10 $\mu$ F	CCG1192		
R 1572	(A,47,3)	RS1/16SS103J		C 1010	(B,85,54)	CKSSYB222K50		
R 1573	(B,63,20)	RS1/16SS560J						
R 1582	(A,82,26)	RS1/16SS103J		C 1011	(B,84,51)	CKSSYB104K10		A
R 1583	(A,82,28)	RS1/16SS103J		C 1012	(B,84,58)	CKSSYB104K10		
				C 1014	(B,85,52)	CKSRYB105K10		
R 1584	(A,77,28)	RS1/16SS103J		C 1015	(B,81,61) 10 $\mu$ F	CCG1171		
R 1601	(A,41,25)	RS1/16SS123J		C 1016	(B,86,57)	CKSRYB472K50		
R 1602	(A,39,24)	RS1/16SS123J						
R 1607	(A,41,27)	RS1/16SS105J		C 1017	(B,88,52)	CKSSYB681K50		
R 1609	(A,37,29)	RN1/16SE1002D		C 1018	(B,81,60) 10 $\mu$ F	CCG1171		
				C 1019	(B,58,59)	CCSSCH101J50		
R 1610	(A,43,29)	RS1/16SS222J		C 1020	(B,58,57)	CKSSYB104K10		
R 1613	(A,39,29)	RS1/16SS223J		C 1021	(B,60,60)	CKSRYB105K10		
R 1614	(A,46,36)	RS1/16SS105J						
R 1615	(A,43,33)	RS1/16SS105J		C 1022	(B,79,47)	CKSSYB103K16		
R 1616	(A,53,36)	RS1/16SS2002D		C 1023	(B,79,49)	CKSSYB104K10		B
				C 1024	(B,71,48)	CKSQYB475K10		
R 1672	(A,43,21)	RS1/16SS303J		C 1025	(B,64,58)	CKSRYB105K10		
R 1673	(A,38,22)	RS1/16SS183J		C 1029	(B,70,54)	CKSSYB104K10		
R 1674	(A,34,23)	RS1/16SS562J						
R 1705	(A,55,57)	RS1/16SS0R0J		C 1030	(B,88,51)	CKSSYB104K10		
R 1706	(A,52,57)	RS1/16SS201J		C 1031	(B,86,55)	CKSRYB474K10		
				C 1101	(B,61,54) 10 $\mu$ F	CCG1192		
R 1707	(A,55,51)	RS1/16SS0R0J		C 1102	(B,59,50) 100 $\mu$ F	CCG1232		
R 1708	(A,52,50)	RS1/16SS201J		C 1103	(B,65,50) 100 $\mu$ F	CCG1232		
R 1715	(A,60,56)	RS1/16SS201J						
R 1716	(A,63,57)	RS1/16SS0R0J		C 1104	(B,63,44)	CKSSYB104K10		
R 1719	(A,60,50)	RS1/16SS201J		C 1105	(B,70,44)	CKSSYB104K10		
				C 1106	(B,63,46)	CKSSYB103K16		C
R 1720	(A,63,51)	RS1/16SS0R0J		C 1107	(B,70,45)	CKSSYB103K16		
R 1803	(A,72,56)	RS1/16SS821J		C 1108	(A,35,36)	CKSSYB103K16		
R 1804	(A,74,56)	RS1/16SS821J						
R 1805	(A,72,62)	RS1/16SS104J		C 1109	(A,36,34)	CKSRYB105K10		
R 1806	(A,74,62)	RS1/16SS104J		C 1110	(A,35,37)	CKSSYB103K16		
				C 1111	(A,39,34)	CKSRYB105K10		
R 1903	(A,89,52)	RS1/16SS0R0J		C 1201	(B,21,11)	CEVW101M16		
R 2001	(A,77,8)	RS1/16SS820J		C 1202	(B,15,17)	CKSYB475K16		
R 2003	(A,78,12)	RS1/16SS820J						
R 2004	(A,77,14)	RS1/16SS820J		C 1207	(B,16,11)	CKSQYB225K10		
R 2005	(A,77,17)	RS1/16SS220J		C 1209	(A,32,17)	CKSSYB104K10		
				C 1210	(A,32,19)	CKSSYB471K50		
R 2006	(A,81,31)	RS1/16SS101J		C 1211	(A,19,17)	CKSSYB103K16		D
R 2007	(A,80,7)	RAB4CQ820J		C 1212	(A,19,8)	CKSSYB104K10		
R 2009	(A,80,11)	RAB4CQ330J						
R 2010	(A,80,14)	RAB4CQ330J		C 1213	(A,19,10)	CKSSYB104K10		
R 2011	(A,80,19)	RAB4CQ330J		C 1301	(B,90,25)	CKSSYB104K10		
				C 1302	(B,88,25)	CKSSYB104K10		
R 2012	(A,80,22)	RAB4CQ330J		C 1351	(B,86,25)	CKSSYB104K10		
R 2014	(A,85,3)	RS1/16SS103J		C 1352	(B,76,19)	CKSSYB104K10		
R 2015	(A,77,19)	RS1/16SS103J						
R 2017	(A,78,7)	RS1/16SS103J		C 1353	(B,81,19)	CKSSYB104K10		
R 2018	(A,87,4)	RS1/16SS103J		C 1354	(B,74,8)	CKSSYB104K10		
				C 1355	(B,86,8)	CKSSYB104K10		
R 2019	(A,85,5)	RS1/16SS103J		C 1356	(B,84,28)	CKSYB106K6R3		
R 2020	(A,89,4)	RS1/16SS103J		C 1401	(B,72,31)	CKSSYB103K16		E
R 2021	(A,76,9)	RS1/16SS220J						
R 2022	(A,77,9)	RS1/16SS820J		C 1402	(B,49,33)	CKSSYB104K10		
R 2023	(A,78,9)	RS1/16SS220J		C 1403	(B,81,27)	CKSQYB475K6R3		
				C 1405	(B,48,8)	CKSSYB103K16		
				C 1406	(B,26,15)	CKSSYB104K10		
				C 1407	(B,74,27)	CKSQYB475K6R3		
<b><u>CAPACITORS</u></b>								
C 1001	(B,68,60) 10 $\mu$ F	CCG1171		C 1408	(B,47,27)	CKSSYB104K10		
C 1002	(B,68,59) 10 $\mu$ F	CCG1171		C 1481	(B,73,5)	CKSSYB104K10		
C 1003	(B,73,57)	CKSRYB103K50		C 1482	(B,73,8)	CKSSYB104K10		
C 1004	(B,72,54)	CKSSYB681K50		C 1483	(B,67,5)	CKSSYB104K10		
C 1005	(B,73,56)	CKSSYB103K16		C 1484	(B,63,5)	CKSSYB104K10		
C 1006	(B,74,52)	CCSSCH820J50		C 1485	(B,56,5)	CKSSYB104K10		
C 1007	(B,75,57)	CKSSYB104K10		C 1486	(B,53,5)	CKSSYB104K10		
C 1008	(B,80,67) 10 $\mu$ F	CCG1192		C 1487	(B,51,5)	CKSSYB104K10		F

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

C 1488 (B,49,5)  
C 1490 (B,68,20)

CKSSYB104K10  
CKSSYB104K10

C 1616 (A,48,36)  
C 1617 (A,49,38)

CKSSYB104K10  
CKSSYB104K10

A

C 1491 (B,77,27)  
C 1492 (B,55,20)  
C 1493 (B,52,20)  
C 1494 (B,65,20)  
C 1496 (B,65,5)

CKSQYB106K6R3  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB102K50

C 1618 (A,51,38)  
C 1619 (A,51,36)  
C 1620 (A,50,36)  
C 1621 (A,50,38)  
C 1622 (A,53,38)

CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10

C 1497 (B,61,20)  
C 1498 (B,77,26)  
C 1499 (B,49,4)  
C 1501 (A,68,45)  
C 1502 (A,58,44)

CKSSYB102K50  
CKSSYB102K50  
CKSSYB102K50  
CKSQYB106K6R3  
CKSQYB106K6R3

C 1623 (A,52,39)  
C 1624 (A,43,28)  
C 1625 (A,56,36)  
C 1626 (A,41,31)  
C 1627 (A,43,23)

CKSSYB104K10  
CKSSYB103K16  
CKSSYB104K10  
CKSRYB105K10  
CKSSYB104K10

B

C 1503 (A,55,3)  
C 1504 (A,58,3)  
C 1505 (A,53,3)  
C 1506 (A,60,3)  
C 1507 (A,68,3)

CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10

C 1628 (A,54,36)  
C 1629 (A,49,36)  
C 1630 (A,38,30)  
C 1671 (A,43,18)  
C 1672 (A,43,19)

CKSSYB104K10  
CKSSYB104K10  
CKSQYB106K6R3  
CKSSYB104K10  
CKSSYB104K10

C 1508 (A,65,3)  
C 1509 (A,70,3)  
C 1510 (A,43,11)  
C 1511 (A,77,7)  
C 1512 (A,76,11)

CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10

C 1673 (A,38,21)  
C 1674 (A,39,22)  
C 1675 (A,39,19)  
C 1676 (A,38,19)  
C 1677 (A,43,22)

CKSSYB104K10  
CKSSYB104K10  
CKSRYB105K10  
CKSRYB105K10  
CKSSYB104K10

C

C 1513 (A,43,10)  
C 1514 (A,76,17)  
C 1515 (A,43,16)  
C 1516 (A,76,15)  
C 1517 (A,43,17)

CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10

C 1801 (A,75,52)  
C 1802 (A,67,58) 10  $\mu$ F  
C 1803 (A,67,56)  
C 1804 (A,70,58) 10  $\mu$ F  
C 1805 (A,70,56)

CKSSYB104K10  
CCG1192  
CKSSYB104K10  
CCG1192  
CKSSYB104K10

C 1518 (A,37,15)  
C 1519 (A,37,16)  
C 1520 (A,49,3)  
C 1521 (A,76,24)  
C 1522 (A,77,24)

CCSSCH8R0D50  
CCSSCH8R0D50  
CCSSCH181J25  
CKSSYB104K10  
CKSSYB104K10

C 1808 (A,72,57)  
C 1809 (A,75,57)  
C 1810 (A,72,59)  
C 1811 (A,74,59)  
C 1901 (A,84,74)

CCSRCH182J50  
CCSRCH182J50  
CKSQYB475K6R3  
CKSQYB475K6R3  
CKSSYB102K50

D

C 1523 (A,58,36)  
C 1524 (A,58,37)  
C 1525 (A,66,36)  
C 1526 (A,62,40)  
C 1527 (A,63,35)

CKSSYB104K10  
CKSSYB103K16  
CKSSYB104K10  
CKSSYB103K16  
CKSSYB471K50

C 1528 (A,65,36)  
C 1529 (A,60,38)  
C 1530 (A,59,40)  
C 1531 (A,57,42)  
C 1536 (A,76,20)

CKSSYB104K10  
CKSSYB103K16  
CKSSYB224K6R3  
CKSSYB123K16  
CKSSYB104K10

C 1537 (A,55,44)  
C 1538 (A,53,44)  
C 1539 (A,57,36)  
C 1540 (A,61,38)  
C 1560 (A,51,3)

CKSSYB102K50  
CKSSYB102K50  
CKSSYB104K10  
CKSSYB103K16  
CKSSYB104K10

E

C 1577 (A,77,31)  
C 1601 (A,41,24)  
C 1602 (A,43,24)  
C 1603 (A,38,23)  
C 1604 (A,39,25)

CKSSYB104K10  
CCSSCH101J50  
CCSSCH101J50  
CCSSCH680J50  
CCSSCH680J50

C 1608 (A,41,26)  
C 1609 (A,43,27)  
C 1610 (A,53,39)  
C 1611 (A,54,38)  
C 1612 (A,55,36)

CKSSYB103K16  
CKSSYB103K16  
CCSSCH101J50  
CKSSYB562K25  
CKSSYB224K6R3

F

C 1613 (A,55,38)  
C 1614 (A,56,38)  
C 1615 (A,41,30)

CKSSYB224K6R3  
CKSSYB333K16  
CKSRYB105K10

Q 1299 Photo-taransistor CPT231SCTD  
S 1201 Spring Switch(12cm) CSN1069  
S 1202 Spring Switch(8cm) CSN1069  
S 1203 Spring Switch(DISC SENS) CSN1069  
S 1204 Spring Switch(DISC SENS) CSN1070

S 1205 Spring Switch(8cm) CSN1070  
R 1298 RS1/16S0R0J  
R 1299 RS1/16S0R0J

**F****Unit Number : CWX3394****Unit Name : Compound Unit(B)**

S 1206 Switch(CLAMP) CSN1067

**Miscellaneous Parts List**

M 1 Pickup Unit(Service) CXX2118  
M 2 Motor Unit(LOADING) CXC4912  
M 3 Motor(STEPPING) CXM1364  
Motor(SPINDLE) CXM1362



# Service Manual

ORDER NO.  
**CRT3896**

DVD MECHANISM MODULE(MS5)

# CX-3212

● This service manual describes the operation of the DVD mechanism module incorporated in models listed in the table below.

● When performing repairs use this manual together with the specific manual for model under repair.

Model	Service manual	DVD Mechanism Module
AVIC-D3/XU/UC AVIC-D3/XU/EW5	CRT3879	CXK6601

## CONTENTS

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# 1. CIRCUIT DESCRIPTIONS

## 1. Front end section (MN2DS0016AAUB : IC1501)

MN2DS0016AAUB is a 1 chip LSI for DVD-Player. A DVD-Player system can be constructed by connecting this LSI, driver IC, SDRAM, Flash-ROM, Audio-DAC, etc.

This LSI includes a front end (SODC/FE) which executes RF signal processing, servo processing and decode processing, a back end (AV decoder/BE) which executes video decode processing such as MPEG1/MPEG2/JPEG and audio decode processing such as DVD-Audio/Dolby Digital<sup>2</sup> /DTS/MP3, and a system controller which controls the system.

The front end section realizes optical head signal computation processing and RF signal processing, digital signal processing (16-8 demodulation, error correction) for DVD-ROM playback according to the DVD specifications, digital signal processing of CD-DA/CD-ROM (error correction), AV decoder transfer, servo control, spindle motor control and seek control.

In the case of MN2DS0016AAUB, the front end servo system waveforms, such as FE, TE and AS, are not observed as in the case of DVD mechanism module (MS4) CX-3183. Please pay attention.

## 1.1 Analog block (MN2DS0016AAUB : IC1501)

The functions of the analog block are as described below.

1. Reference power circuit
2. SERVO system/DPD system signal processing circuit  
Gain switching amplifier and Low Pass Filter (LPF)
3. RF signal processing circuit  
RF adding circuit, circuit to make inline, Variable Gain Amplifier (VGA) circuit
4. Laser power control (LPC) circuit
5. A/D converter for SERVO (10 bit, DPD system-4ch), PWM

### 1.1.1 APC circuit

The optical output of the laser diode (LD) has a large negative temperature characteristic.

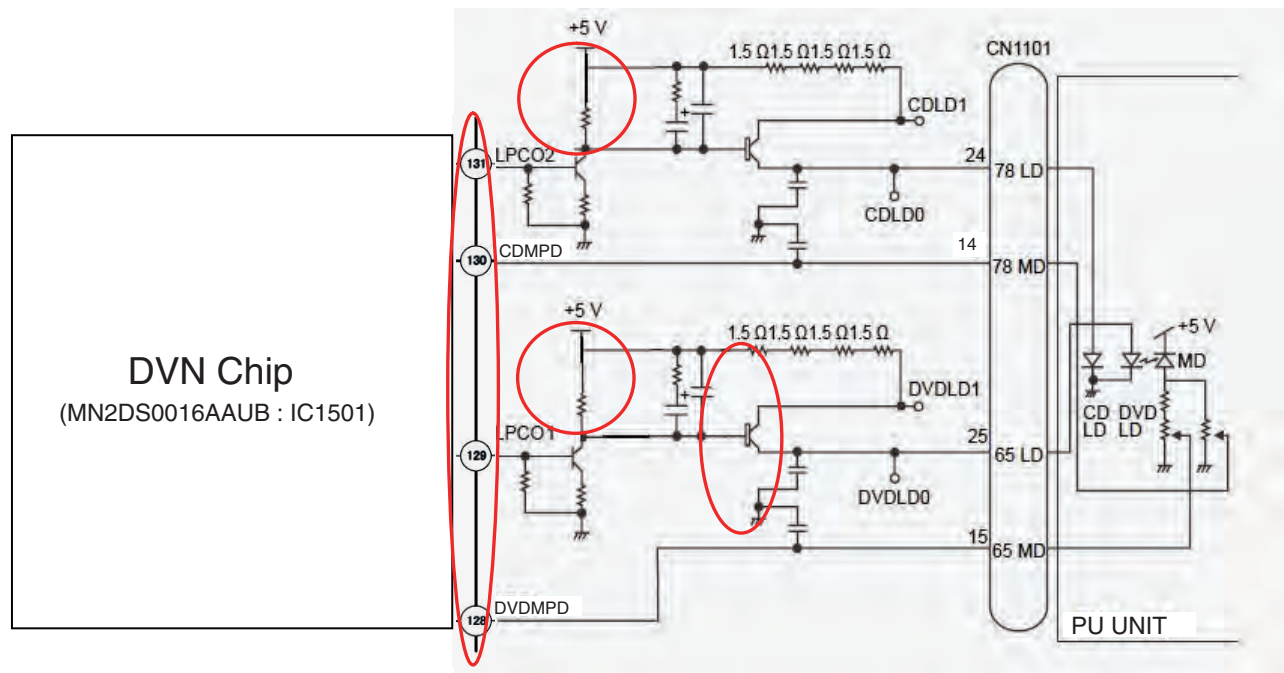
Therefore, if the LD is driven by a constant current, a constant optical output cannot be obtained.

APC circuit is a circuit to control the current so that the output at the monitor diode (MD) will be constant.

MN2DS0016AAUB includes 2 types of APC circuit, one for DVD and the other for CD.

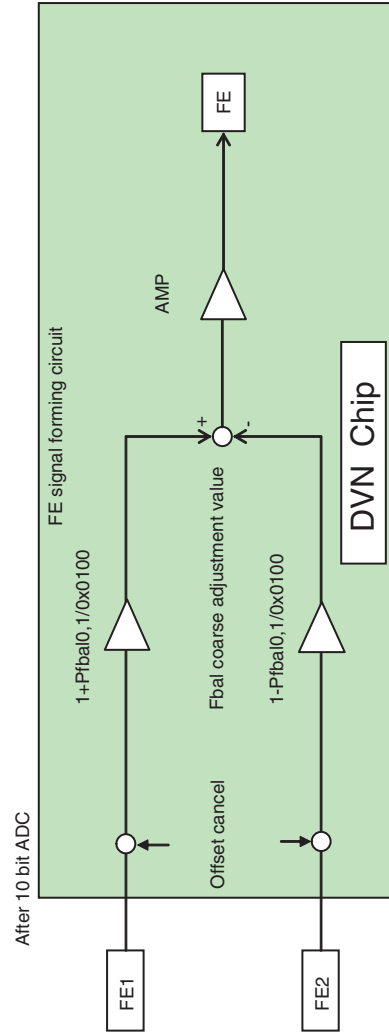
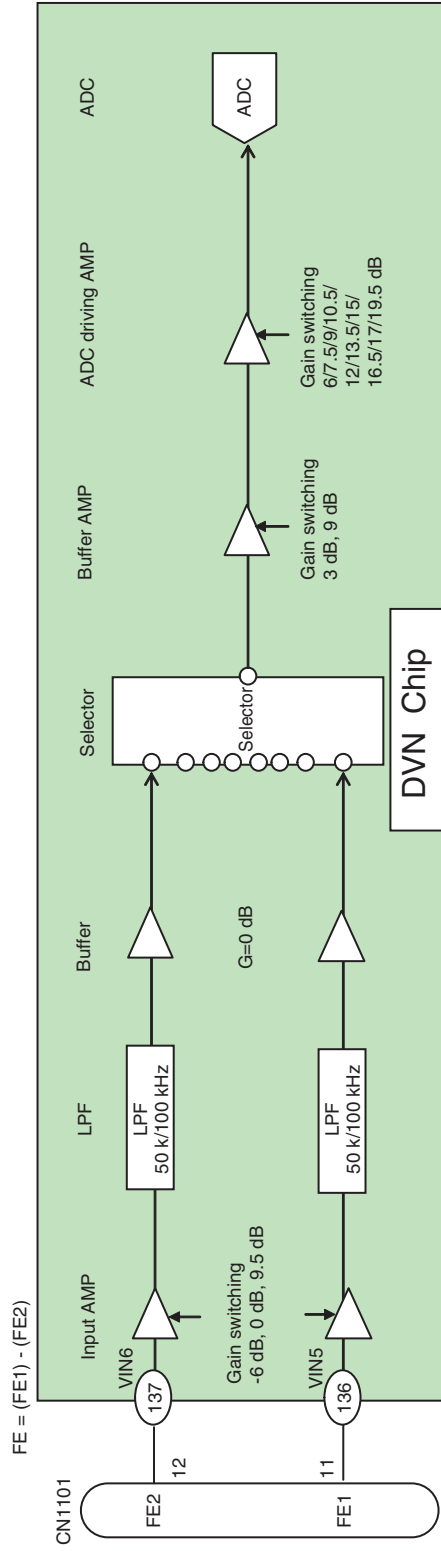
The LD current can be obtained by dividing the measured voltage between DVDLD1 (CDLD1) and 5 V by 6  $\Omega$  ( $1.5 \Omega \times 4=6 \Omega$ ), in the case of DVD (CD). It will be approximately 50 mA (45 mA) in the case of DVD (CD).

The potential difference between DVDLD1(CDLD1) and 5 V is set to approx. 300 mV(270 mV).



### 1.1.2 FE forming circuit

The signal from PU, FE1 and FE2, are AD converted inside IC1501 and captured. After that, a differential is obtained by taking the offset cancellation into consideration, and FE is obtained.



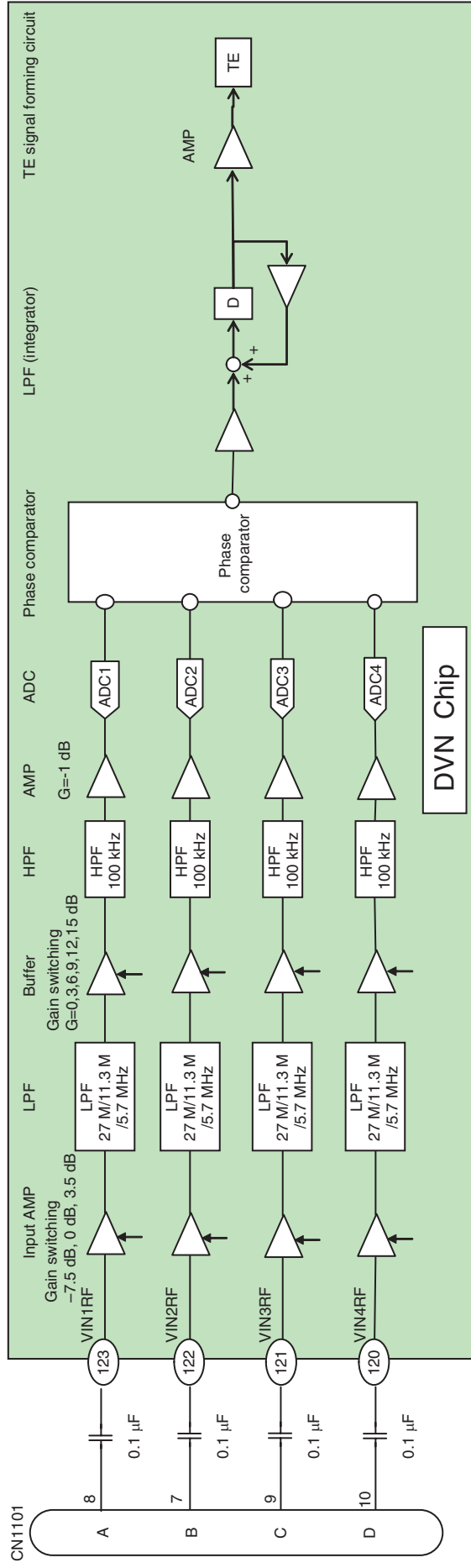
### 1.1.3 TE forming circuit

Tracking error (TE) forming circuit

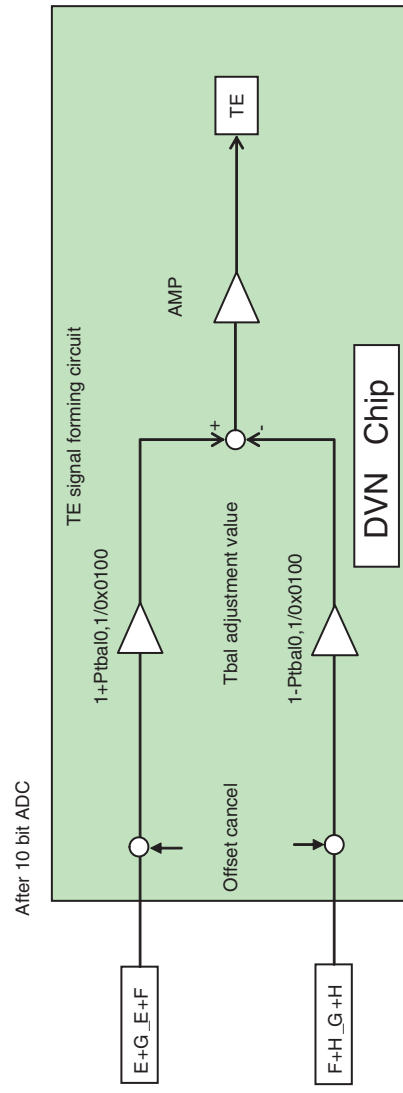
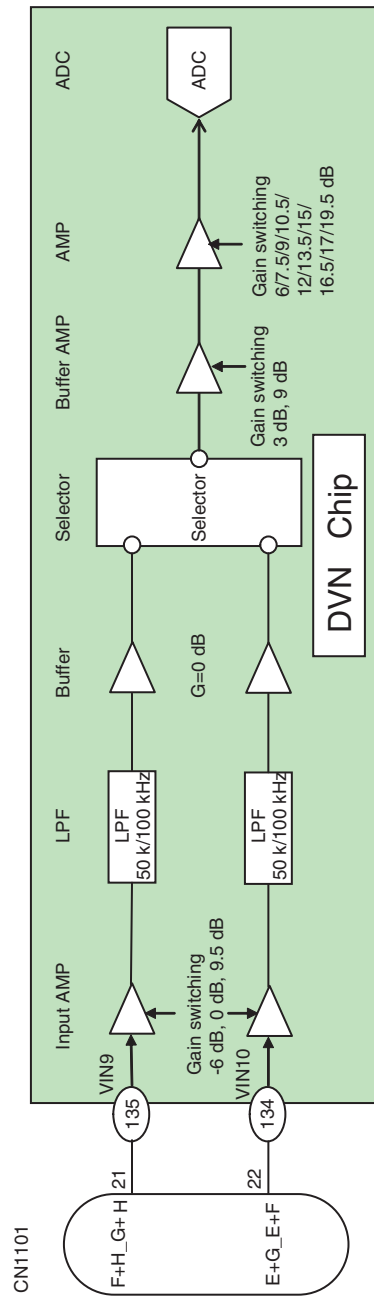
In the case of a DVD, the phase difference method is used for TE forming, and the TE is formed from the phase difference among (A+C) and (B+D).

In the case of a CD, 3 beam method is used, and after entering the signal into a variable amplifier for tracking offset adjustment via an external resistor, it is AD converted, and a TE is formed by the equation of  $TE = (E + G\_E + F) \cdot (F + H\_G + H)$ .

- DVD (phase difference TE)



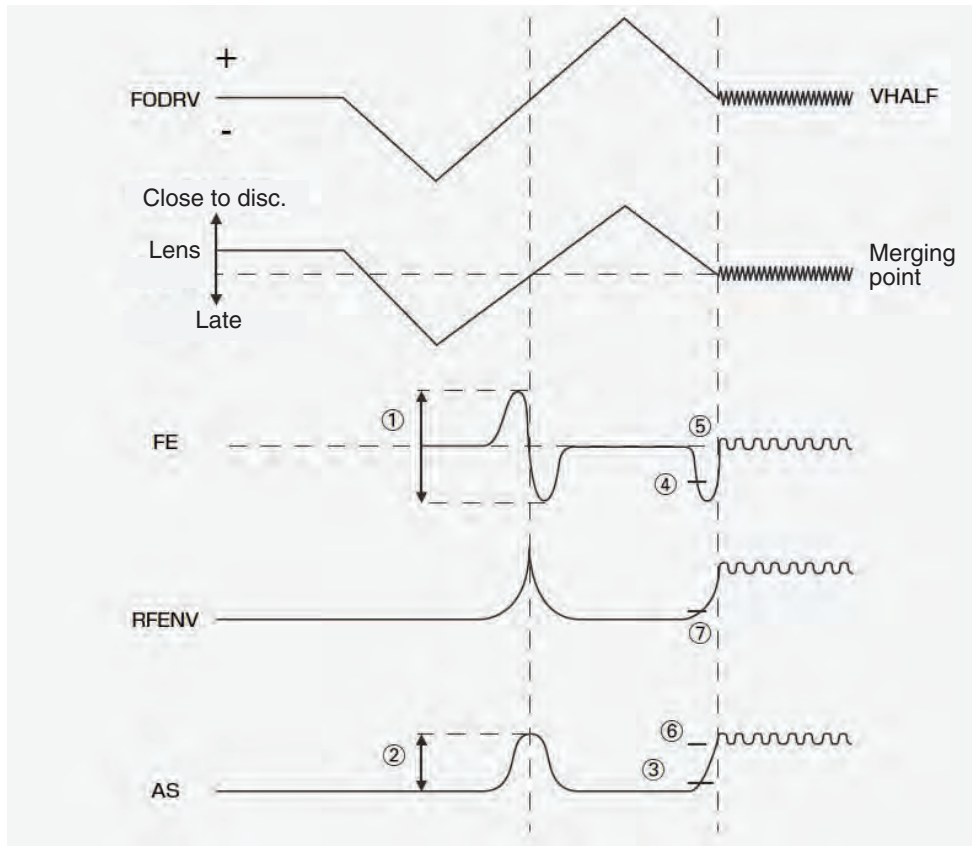
• CD (3 beam TE)



## 1.2 Servo block (MN2DS0016AAUB : IC1501)

At the servo block, focusing, tracking, servo control of traverse, spindle motor control and seek control are performed.

### 1.2.1 Focus close



After issuing the focus close command, both the DVD and the CD will perform the following processing.

#### 1. Measurement and optimization of the signal level.

First the PU lens is driven in the direction getting away from the disc, then it is driven in the direction getting close to the disc. At this time, each signal level of FE, AS and RFENV are measured at the focused focal point that the lens passes, and the levels of FE and AS are optimized. (1 and 2 in the figure)

#### 2. Focus adjustment

Next, after detecting the drawing level of FE and AS by driving the lens away from the disc, the focus loop filter is activated and the focus is drawn. (3~6)

#### 3. Confirmation of adjustment

Confirm the drawing at the signal level of AS and RFENV. (6, 7)

The signal levels of FE, AS and RFENV and the focus drive voltage can be checked by the focus search in the test mode.

### 1.2.2 Tracking close

After issuing the tracking close command, both the DVD and the CD will perform the following processing.

#### 1. Tracking brake

1/2 cycle of the track cross is measured and if the cycle is within the specified range, the brake pulse is output.

The output direction of the brake pulse is determined by the phase relationship of the OFTR and the TKC (binary signal of TE) signals. When it is confirmed that the swinging of the lens against the disc has been controlled, braking will be stopped and enters into drawing. If the drawing conditions are not met within 10 msec, after the brake output, the brake will be ended and entered into drawing.

#### 2. Tracking adjustment

Tracking drive hold processing by the OFTR signal will be performed.

#### 3. Confirmation of adjustment

Checking is made that the number of track jumps within the specified period of time are at the designated numbers or less. The time out for confirmation of adjustment is 8.4 msec. and retry is performed by the command from the microcomputer.

### 1.2.3 Track jump

In this system, one of the three methods, interval jump, multi jump or traverse seek, is selected depending on the number of target moving tracks.

#### 1. Interval jump

Detailed seek can be performed to execute repeated track jump of 1 track, and it is used when the target track gets close or at the time of seek operation to the adjacent track.

#### 2. Multi jump

Both edges of the track cross signal TKC are counted, and track count move of the designated number is executed. Furthermore, the stepping motor is driven according to the number of jumps.

#### 3. Traverse seek

The stepping motor is controlled by F/W. Track count by TKC is not performed, and the stepping motor is moved according to the number of jumps. In the case of a DVD, seek is performed by maintaining the pick up at the mid point using the mid point servo by the microcomputer.

It indicates the setting for jump switching common to DVD and CD.

Types of target move number of jumps.

#### DVD

1~10 Interval jump

11~500 Multi jump

501~878 Combination of multi jump and interval jump

879~1756 Traverse seek (short)

1757~ Traverse seek (long)

#### CD

1~10 Interval jump

11~400 Multi jump

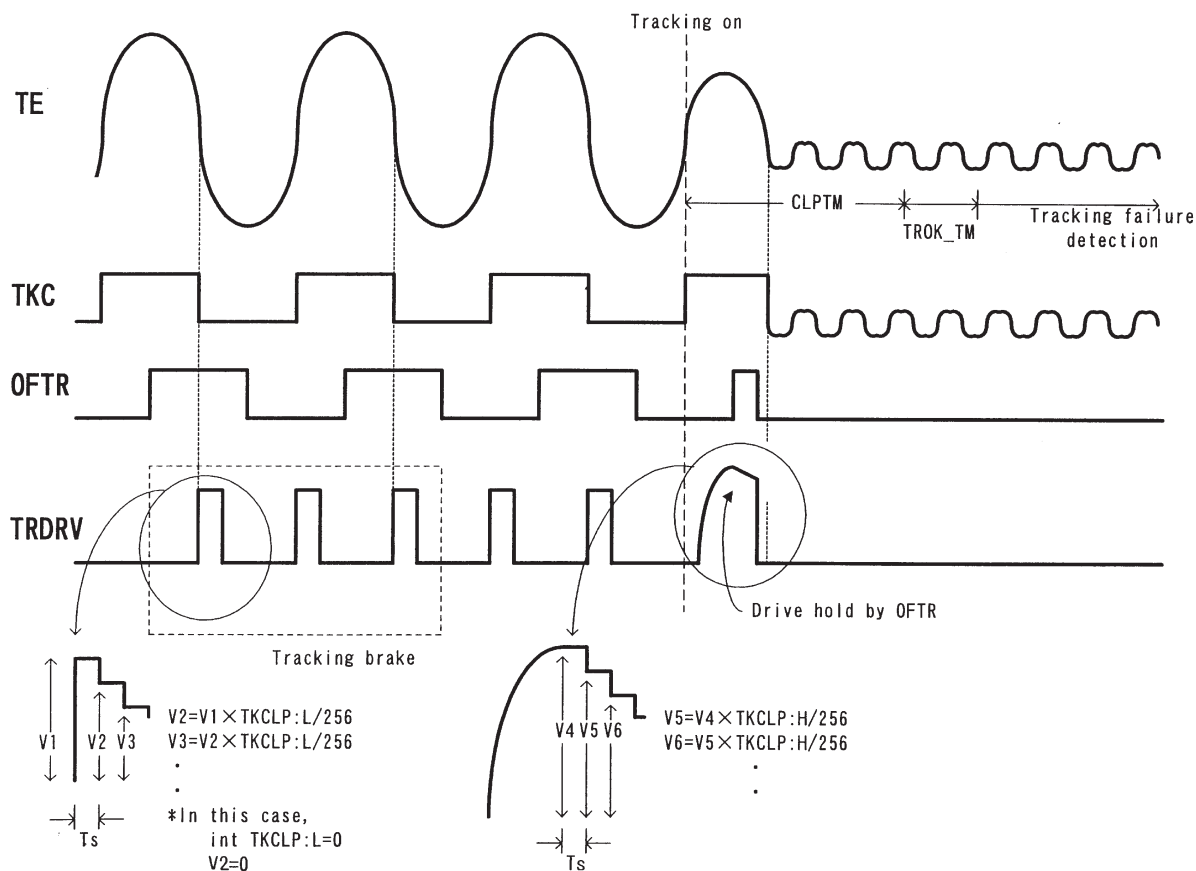
401~780 Combination of multi jump and interval jump

781~928 Traverse seek (short)

929~ Traverse seek (long)

The waveform of track jump is shown on the next page.

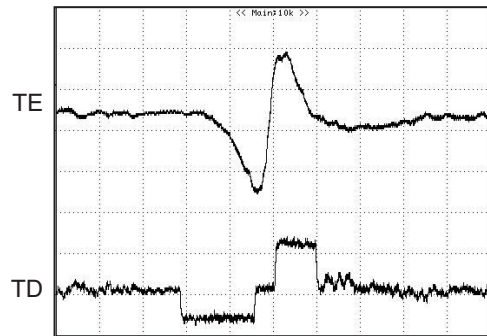
### Tracking-on process



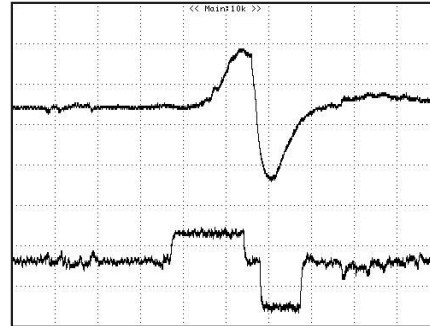


## Interval jump (1 track) DVD

## Outer peripheral jump

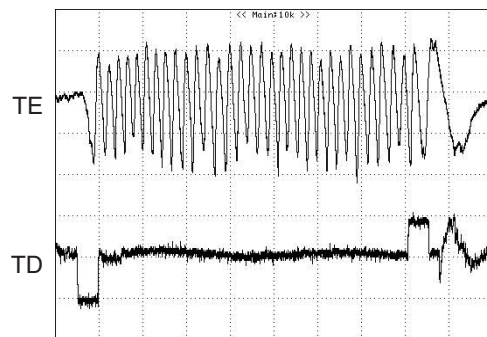


## Inner peripheral jump

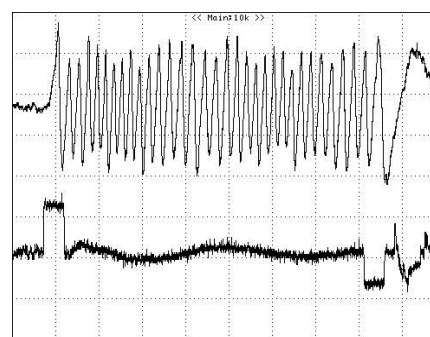


## Multi jump (32 track) DVD

## Outer peripheral jump

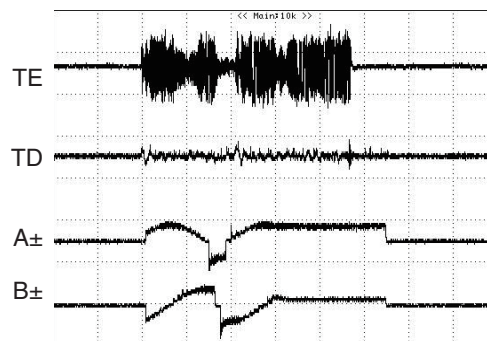


## Inner peripheral jump



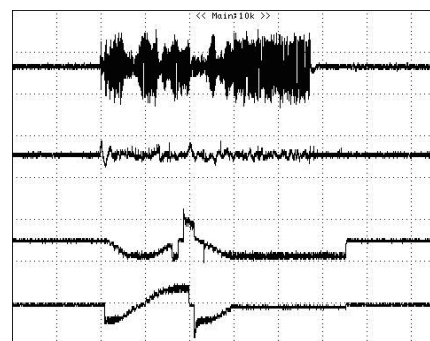
## Traverse seek (900 tracks)

## Outer peripheral jump



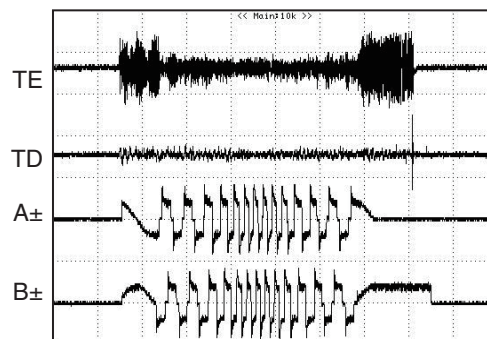
A ± and B ± are measured by setting the LPF of the oscilloscope to 10 kHz.

## Inner peripheral jump

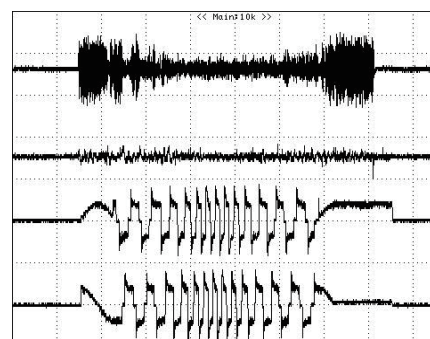


## Traverse seek (10 000 tracks)

## Outer peripheral jump



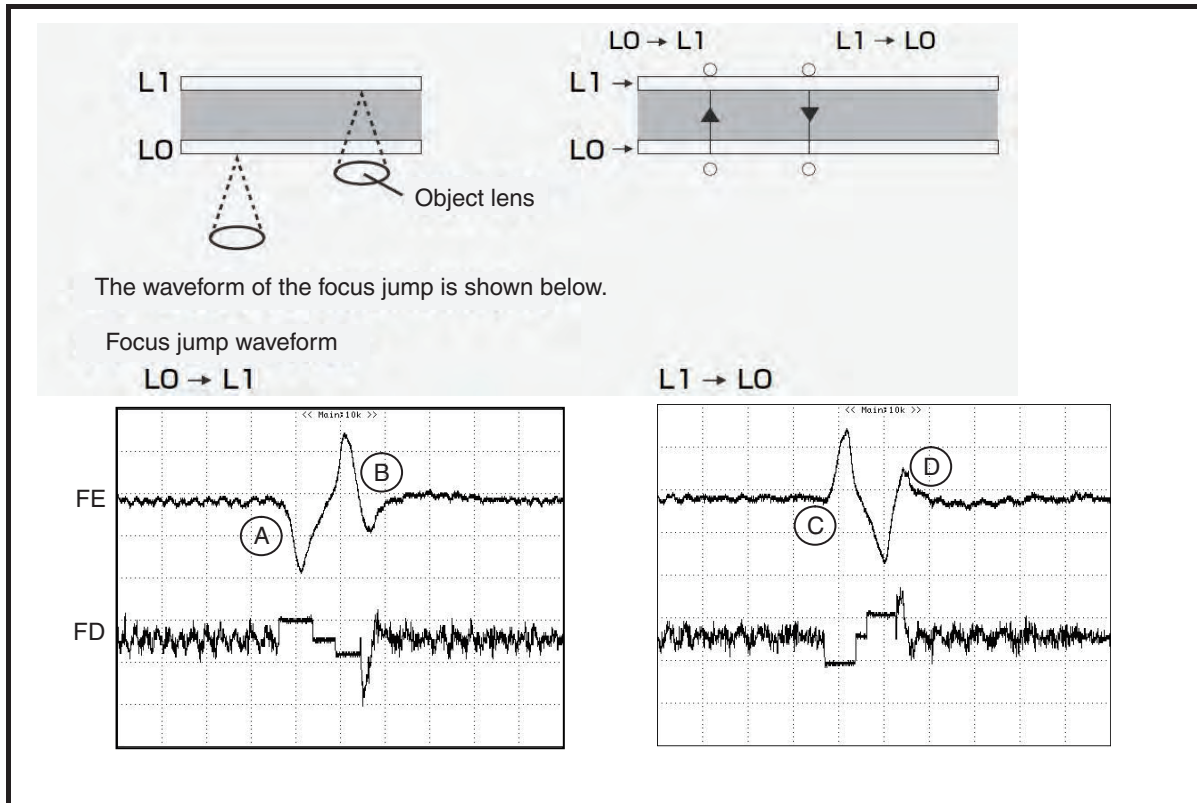
## Inner peripheral jump





### 1.2.4 Focus jump

Focus jump is a function compatible to 2 layers on one side or 2 layers on both sides. Looking from the object lens, the layer close to the lens is called "layer 0" (L0) and the layer away from the lens is called "layer 1" (L1).



The flow of the focus jump is shown below.

1. The tracking is opened by the layer being played back.
2. A command is issued to execute jump to the target layer.
3. The tracking is closed at the layer after the jump and the playback is resumed.

Incidentally, the process when the jump command is issued is as described below.

1. The lens is accelerated to the target layer until the FE signal detects the focus jump acceleration end level. Acceleration will be ended by force, however, if the time for acceleration timeout has elapsed before detecting the acceleration end level.
2. The drive voltage is not output until the FE signal detects the speed reduction start level, and the lens is moved by inertia.
3. The lens speed is reduced from detection of the speed reduction start level until detection of the speed reduction end level. Speed reduction will be ended by force, however, if the time for speed reduction timeout has elapsed before detecting the speed reduction end level.

### 1.3 Auto adjustment function

All circuit adjustments are automated in this system.  
Details of each auto adjustment are explained below.

#### 1.3.1 VIN1, VIN2, VIN3, VIN4, VIN5, VIN6, VIN9, VIN10 offset cancel

Each signal from VIN1~6, 9 and 10 output by PU is converted to a digital signal by the AD converter in the servo block. Offset cancel is a function to cancel input offset of the AD converter at the time of power ON.

#### 1.3.2 VCO gain adjustment (VARI adjustment)

It has a function to absorb variation of VCO gain among individual LSI by learning so that auto adjustment is made to maintain the VCO gain at a certain level. VCO is locked against the reference frequency for learning. And, a frequency control value (FCNT) is read, and VARI register is adjusted so that the read value becomes the same as the target FCNT value.

#### 1.3.3 FE normalization adjustment

FE signal level measured at the time of focus close is adjusted so that it will become 190LSB at the digital equalizer input stage.

### 1.3.4 Tracking balance (TBAL) adjustment

At the time of focus close and tracking open, the lens is oscillated in the track direction and the balanced point where the DC offset becomes zero is searched and adjusted by using the Newton-Raphson method.

### 1.3.5 Learning of tracking error amplitude

At the time of focus close and tracking open, the lens is oscillated in the track direction and adjusted so that the TE amplitude level becomes 190 LSB at the digital equalizer input stage.

### 1.3.6 OFTR adjustment

The binary threshold level is adjusted to make the OFTR signal into a binary digit.

### 1.3.7 RF gain adjustment

The gain setting is adjusted by the VGA value in order to set the gain setting of the RF forming circuit to an optimum one according to the PU output.

### 1.3.8 Focus balance (FBAL) adjustment

The focus position is adjusted so that the RFENV will be the maximum at the time of focus close · tracking open and tracking close.

### 1.3.9 Focus gain adjustment, tracking gain adjustment

At the time of tracking close, a disturbance is entered into the servo loop to adjust to the target gain intersection.

### 1.3.10 AS normalization adjustment

The AS signal level is measured for the designated number of samples at the time of track closing, and after A/D conversion at the ADSC, it is fine adjusted to become 64 LSB at the digital equalizer input stage.

All auto adjustments can be confirmed by displaying the adjustment result in the test mode.  
The list of auto adjustment coefficient

State	Coefficient	DVD	CD
Power ON	VIN1 offset	06B7~08CD	-
	VIN2 offset	06B7~08CD	-
	VIN3 offset	06B7~08CD	-
	VIN4 offset	06B7~08CD	-
	VIN5 offset	06B7~08CD	06E1~08A3
	VIN6 offset	06B7~08CD	06E1~08A3
	VIN9 offset	-	06B7~08CD
	VIN10 offset	-	06B7~08CD
F close	FE MAX	0E48~36CD	13A5~469A
	FE MIN	C933~F1B8	B966~EC5B
	AS MAX	037B~1BD9	0978~3DDC
	FE normalization	01DD~05B4	016A~045B
F close (after TBAL)	TE MAX	1518~47E0	0337~381A
	TE MIN	B820~EAE8	C7E6~FCC9
	TE normalization	017C~0320	0230~08AF
T close	F gain	0100~0400	←
	T gain	0100~0400	←
	AS normalization	024C~125F	0168~0399

Note) Coefficient values are indicated in hexadecimal. In all cases, specifications at the production line are described. For discs, TDV-582 is used for DVD and TCD-792 is used for CD.

## 1.4 CIRC block (MN2DS0016AAUB : IC1501)

The CIRC block includes the digital signal processing function (EFM modulation and error correction) of CD-DA and CD-ROM and the digital servo processing function of the spindle motor.

## 1.5 DRC block (MN2DS0016AAUB : IC1501)

The digital read channel (DRC) is equipped with A/D converter, digital equalizer (DEQ), Adaptive filter, Viterbi detector, digital PLL circuit, RISC interface and periphery circuits for reading of signal on optical disc.

## 1.6 ATAPI I/F(MS5 base model)

### [Outline]

The ATAPI interface is a ATAPI protocol control circuit compatible to ATA/ATAPI-5.

The register of the control section can be directly accessed from the system controller, and the data transfer is made via the SODC internal bus.

### ● ATAPI interface

\* When viewed from I DVD-LSI.

Signal Name	Bits	I/O	Description
HDD[15:0]	16	I/O	ATAPI data input/output
NCS[1:0]	2	I	ATAPI host chip select
DA[2:0]	3	I	ATAPI host address
NIORD	1	I	ATAPI host data read out
NIOWR	1	I	ATAPI host data write
IORDY	1	O	ATAPI host ready output
DMARQ	1	O	DMA request to ATAPI host
NDMACK	1	I	DMA response from ATAPI host
INTRQ	1	O	Interrupt request to ATAPI host
NDASP	1	O	ATAPI drive information
NPDIAG	1	O	ATAPI slave · master diagnosis
NRESET	1	I	ATAPI host hard reset
MASTER	1	I	ATAPI slave · master selection

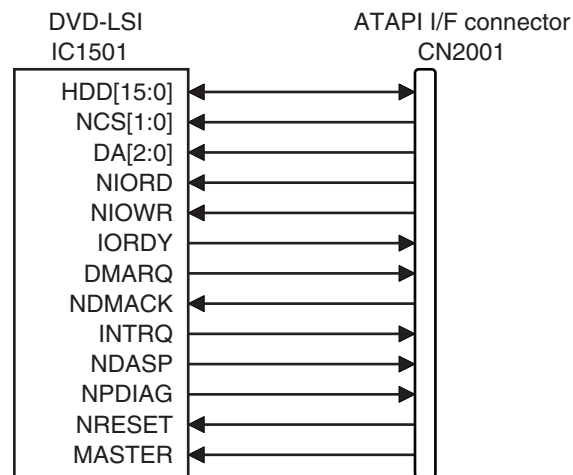
### ● ATAPI specifications

- Compatible transfer mode

PIO	mode 0 to 4
Single word DMA	mode 0 to 2
Multi word DMA	mode 0 to 2
Ultra DMA	mode 0 to 4

- 64 Byte data FIFO for host I/F is built-in.
- Auto capturing function of ATAPI command packet is built-in.
- Master · slave compatible

### ● ATAPI connection configuration



## 1.7 Power Supply Map(MS5 base model)

A

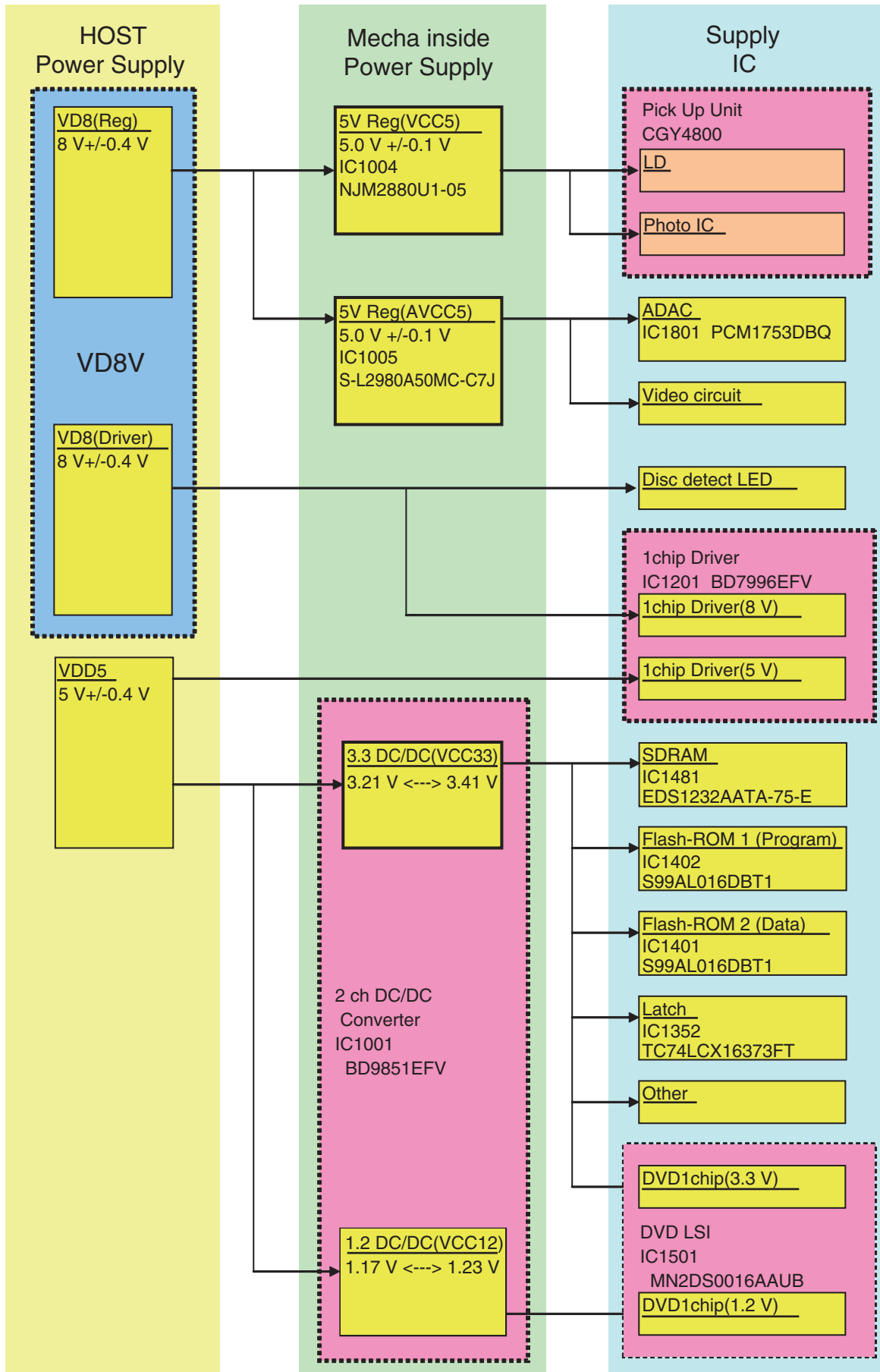
B

C

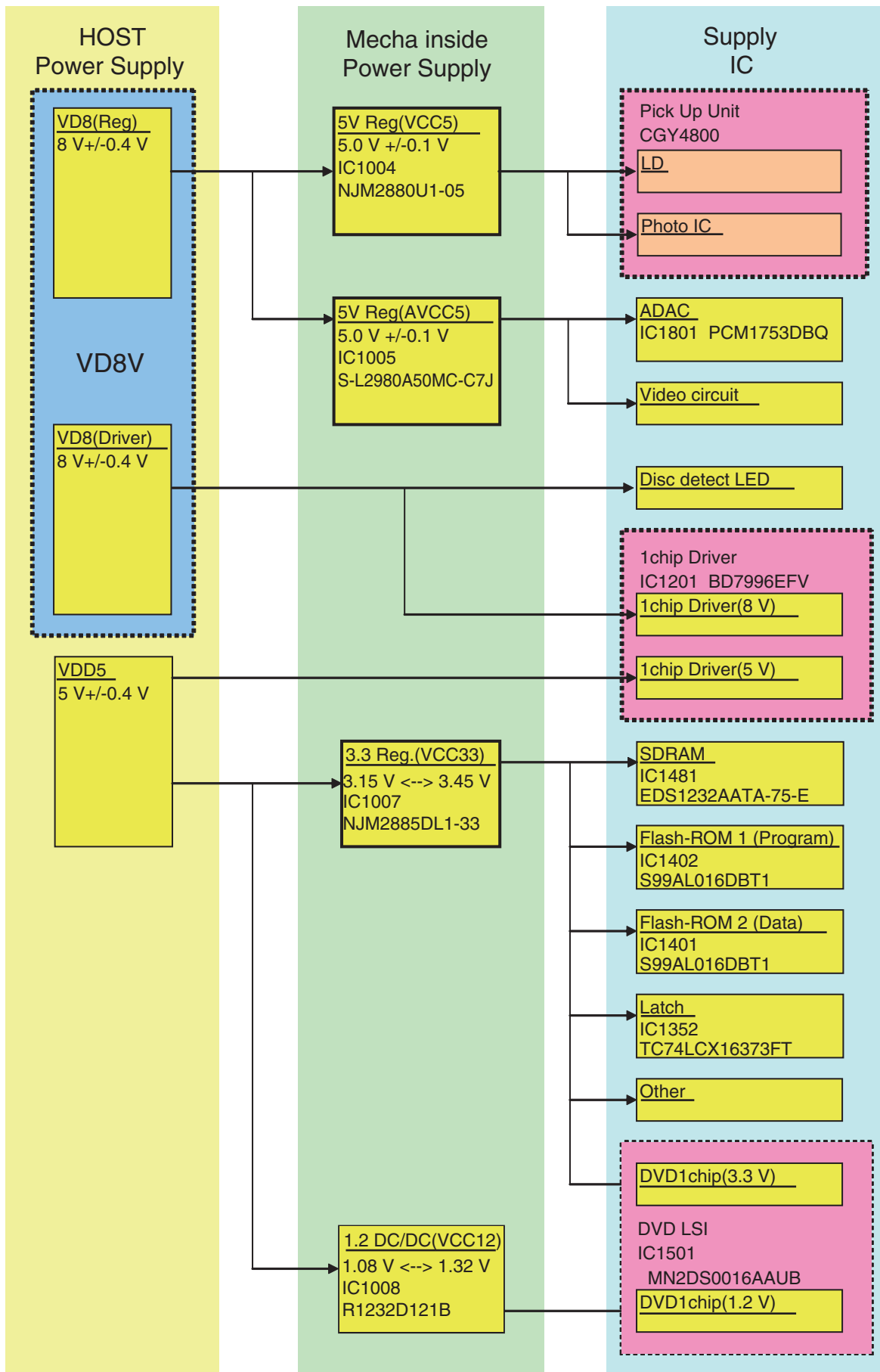
D

E

F



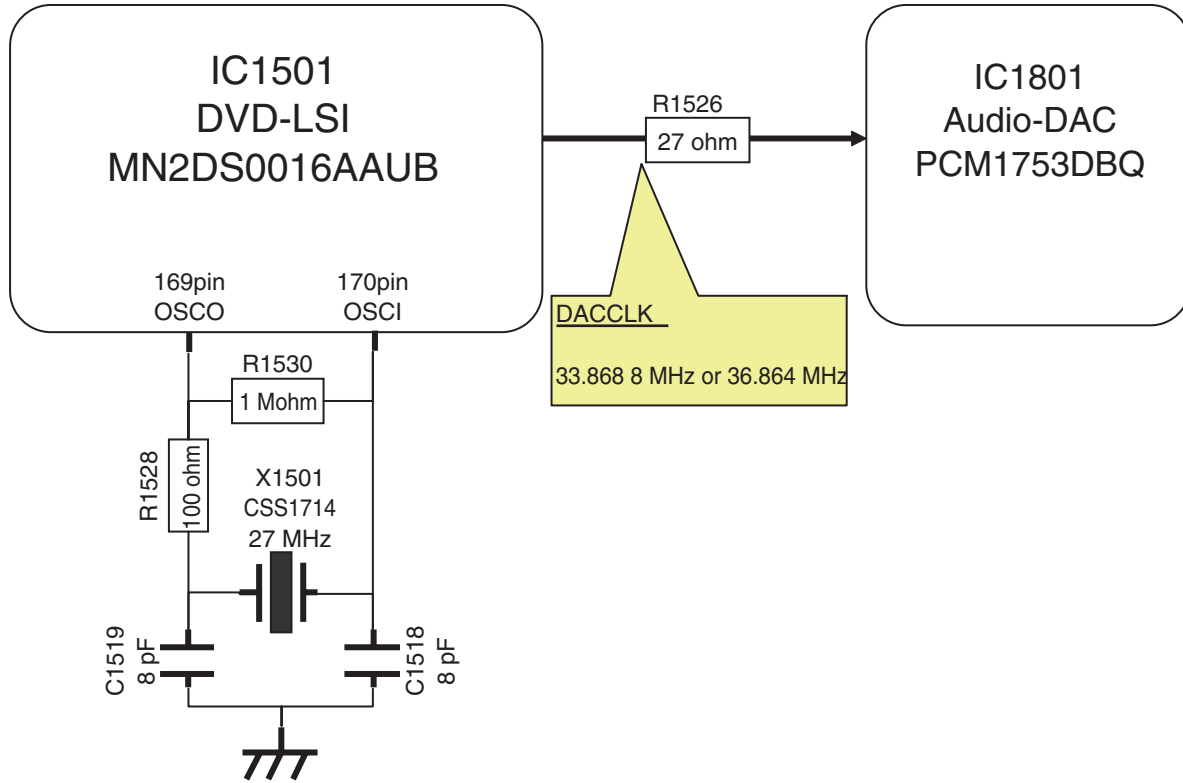
Power Supply Map(MS5AV code2 model)



## 1.8 Clock circuit

[Outline]

By connecting a 27 MHz crystal oscillator to DVD-LSI (IC1501), DACCLK for externally connected Audio-DAC is formed and supplied by the clock generator inside the DVD-LSI in addition to the clock used inside the LSI.



## 1.9 Audio circuit

### [Outline]

#### ① Analog audio signal

Serial 3 line digital output + DACCLK (audio clock) output from DVD-LSI (IC1501) are converted to analog audio signal by Audio-DAC (IC1801), and are output from HOST IF connector (CN1901). Furthermore, analog MUTE signal is also output from DVD-LSI (IC1501) via HOST IF connector (CN1901) simultaneously.

#### ② Digital audio signal (IEC60958/IEC61937)

Digital audio signal (IEC60958/IEC61937), output from DVD-LSI (IC1501), is output via Multi-ch/Ripping IF connector (CN1851).

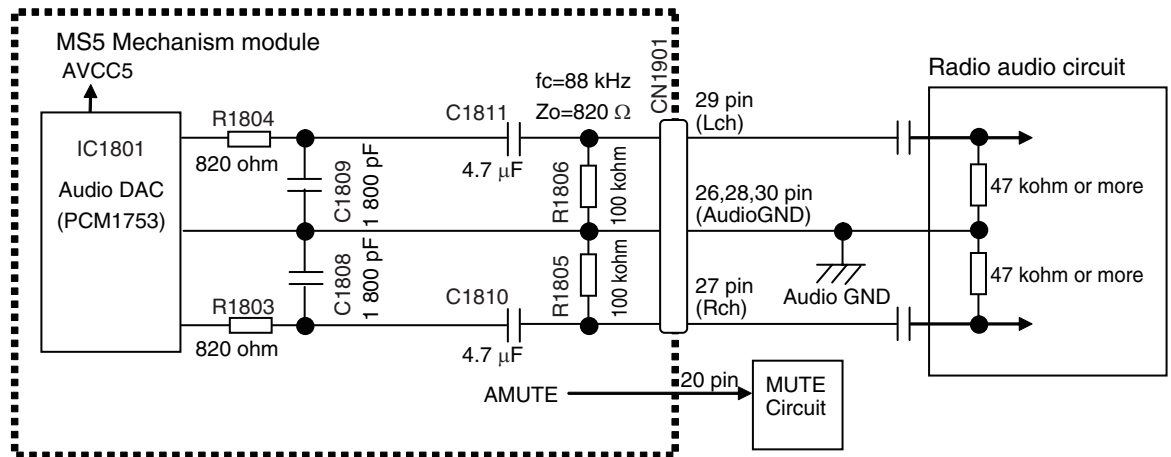
#### ③ Digital multi-channel audio serial signal

Serial 6 line output from DVD-LSI (IC1501) is output via Multi-ch/Ripping IF connector (CN1851).

#### ④ CD-DA ripping signal

Serial 3 line signal output + SUB-CODE signal, output from DVD-LSI (IC1501), are output in 4 times speed via Multi-ch/Ripping IF connector (CN1851).

### [Analog audio signal]



[Digital audio signal]

A

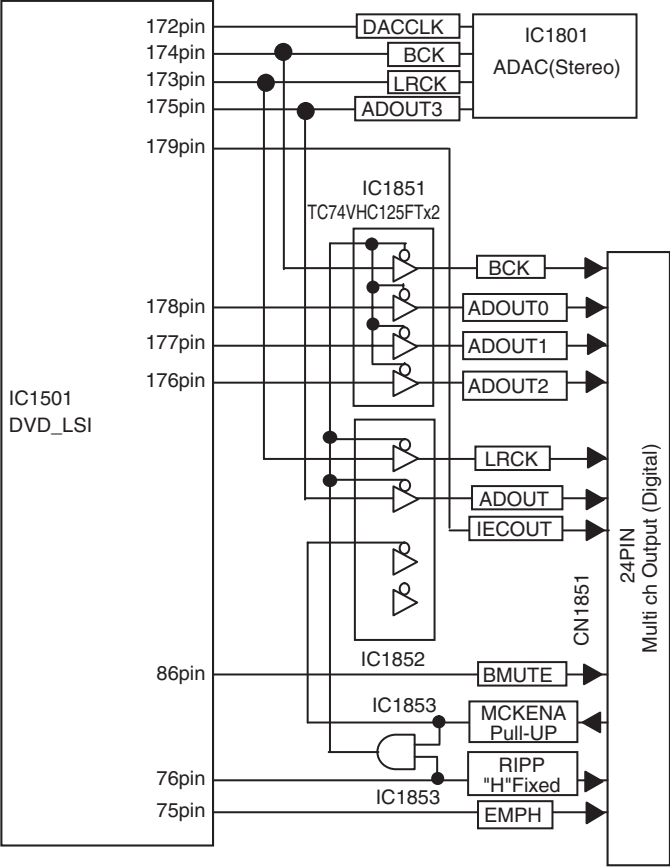
B

C

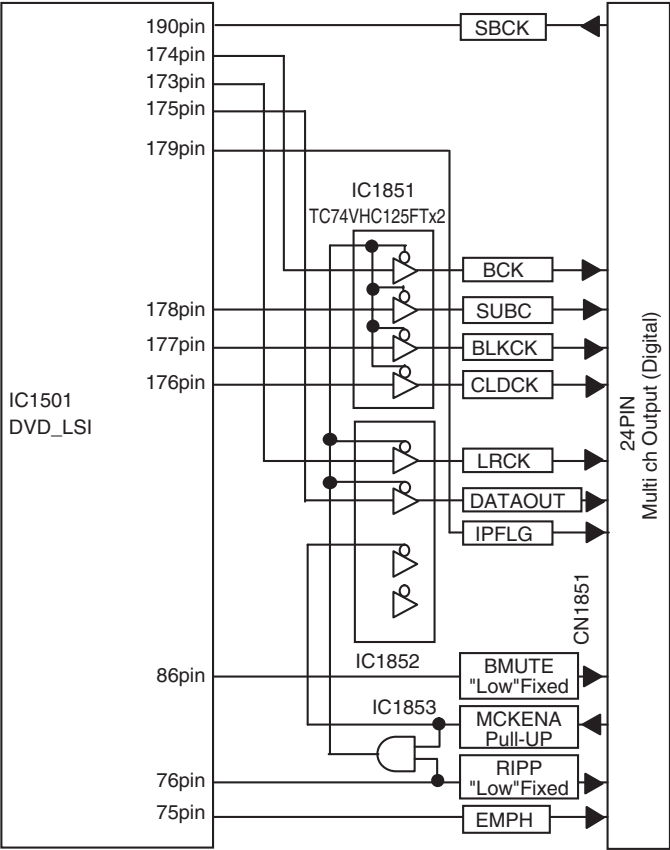
D

E

F



[CD-DA 4 times speed ripping signal]



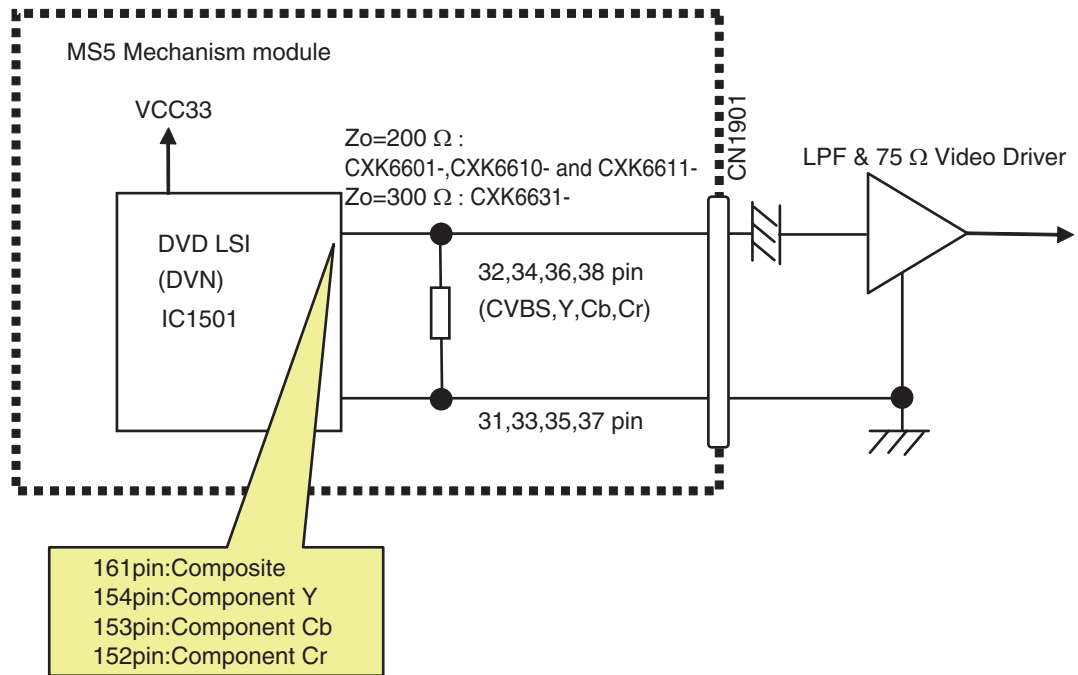


## 1.10 Video circuit

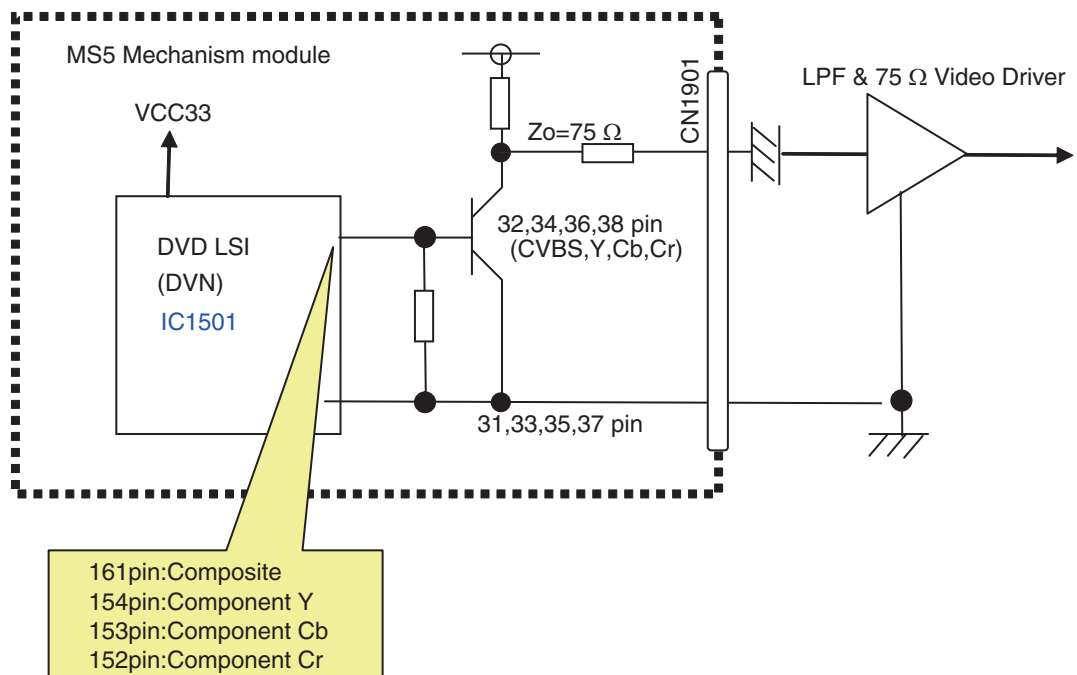
[Outline]

Composite signal and component signal are output from DVD-LSI (IC1501), and output from HOST IF (CN1901). Incidentally, the buffer circuit of MS5AVcode2 model -> CXK6631-,CXK6601-,CXK6610- and CXK6611- : No Mount, and the output signal from DVD-LSI is output as is. CXK6630- : The buffer circuit is installed.

### CXK6631-,CXK6601-,CXK6610- and CXK6611-



### CXK6630-



## 1.11 SDRAM I/F

### [Outline]

It is a memory for realizing the AV decoding function of DVD-LSI (IC1501). It is used for various purposes such as buffering of stream data before decoding, working area for decoding, and storing of AV data or output data after decoding.

### ● SDRAM interface

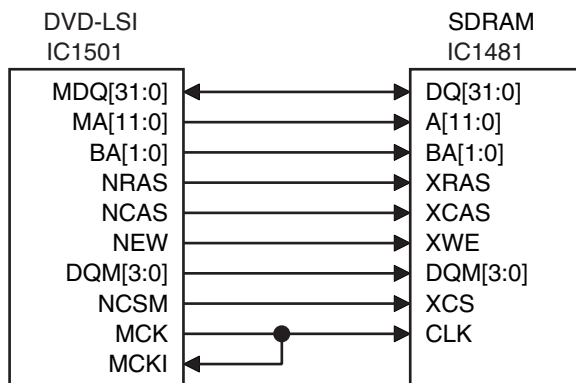
\* When viewed from I DVD-LSI

Signal Name	Bits	I/O	Description
MDQ[31:0]	32	I/O	Data bus of external SDRAM
MA[11:0]	12	O	SDRAM address
BA[1:0]	2	O	SDRAM bank address
NRAS	1	O	RAS signal of SDRAM
NCAS	1	O	CAS signal of SDRAM
NEW	1	O	Write enable signal of SDRAM
NCS	1	O	Chip select signal of SDRAM
DQM[0]	1	O	Mask signal for writing lower level byte of the lower 2 bytes in SDRAM
DQM[1]	1	O	Mask signal for writing higher level byte of the lower 2 bytes in SDRAM
DQM[2]	1	O	Mask signal for writing lower level byte of the higher level 2 bytes in SDRAM
DQM[3]	1	O	Mask signal for writing higher level byte of the higher 2 bytes in SDRAM
MCK	1	O	Clock input to SDRAM
MCKI	1	I	Clock input for data input from SDRAM

### ● SDRAM specifications

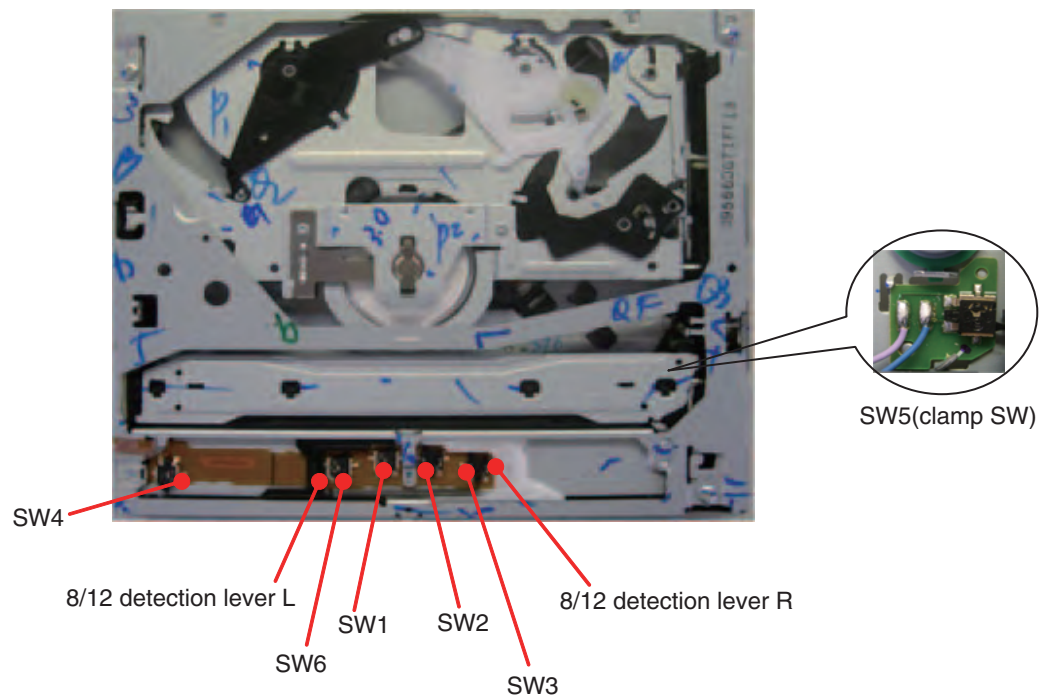
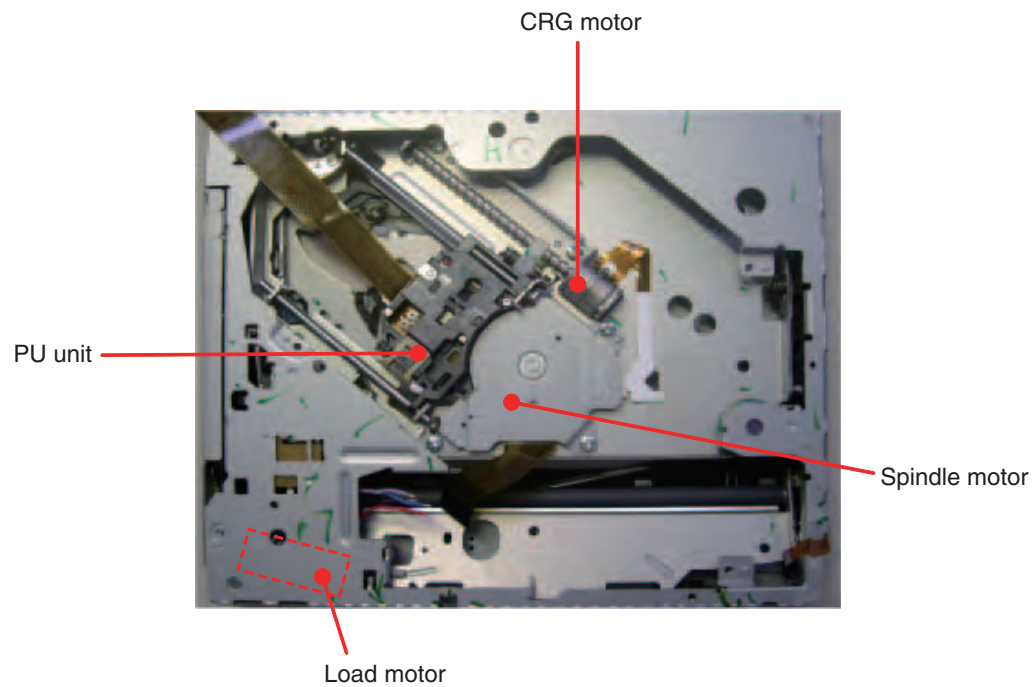
- Data bus width: 32 bit
- Operating frequency: 121.5 MHz
- CAS latency=3
- 8 word burst transfer
- Manual precharge
- CAS before RAS refresh (Auto refresh)

### ● SDRAM connection configuration



## 2. MECHANISM DESCRIPTIONS

### Construction

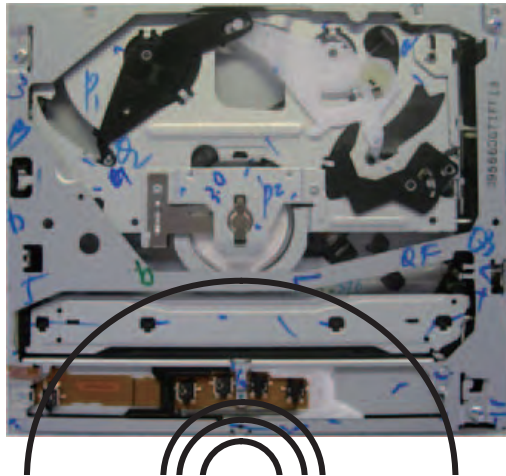


## 2.1 Disc loading operation

A

1. When the disc is loaded, 8/12 detection lever R · L will slide, either SW1 or SW2 will be ON—OFF, and the loading motor will start.
2. In the case of a 12 cm disc, the disc is transported and SW3 becomes OFF and SW4 becomes ON, and the microcomputer judges as a 12 cm disc.

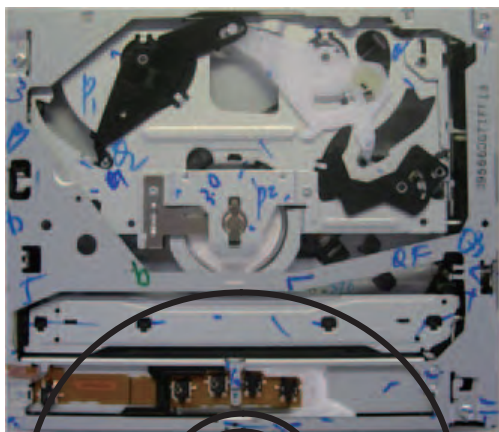
B



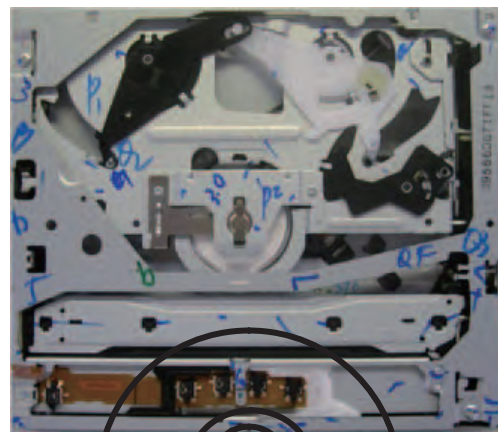
C

3. In the case of an 8 cm disc, even if the disc is transported, the SW3 OFF and SW4 ON state will not be realized, and the clamping motion will be taken. The microcomputer will judge as an 8 cm disc.

D



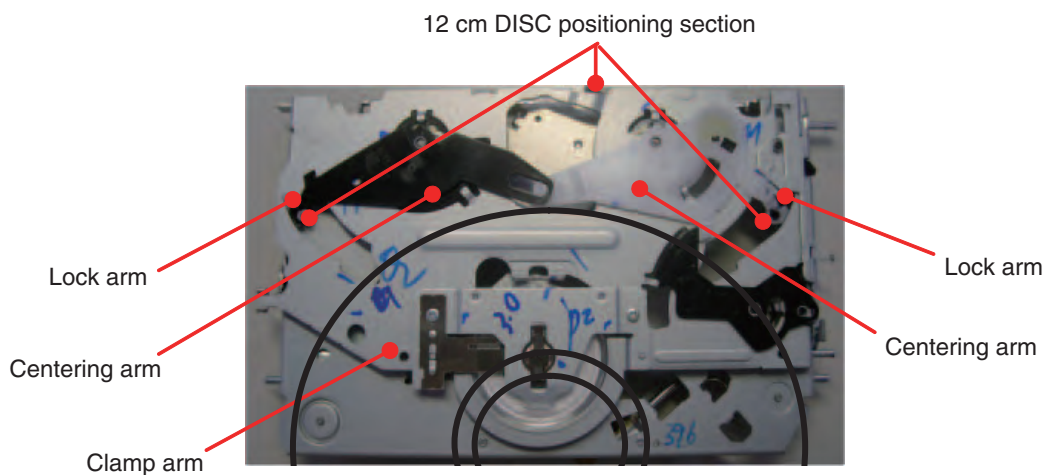
E



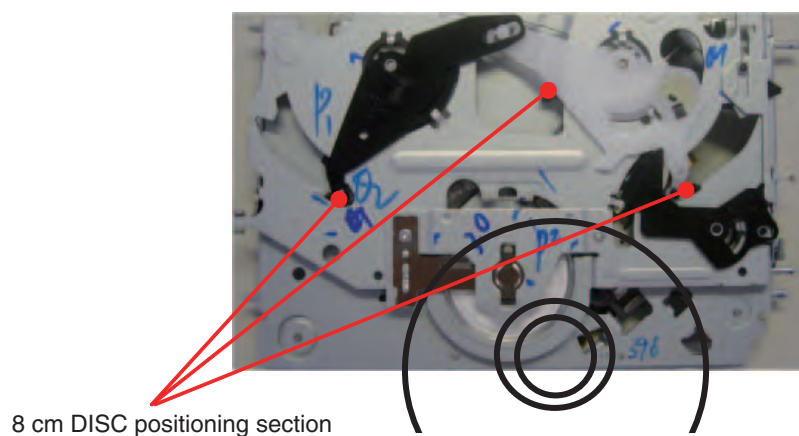
F

## 2.2 Disc centering mechanism

1. In the case of a 12 cm disc, the centering arm R · L will open by the disc being transported and both the lock arm R · L being pushed. Furthermore, the disc will be centered by the stopper of either the clamp arm or the centering arm R and stopped, and the clamping motion will be taken.

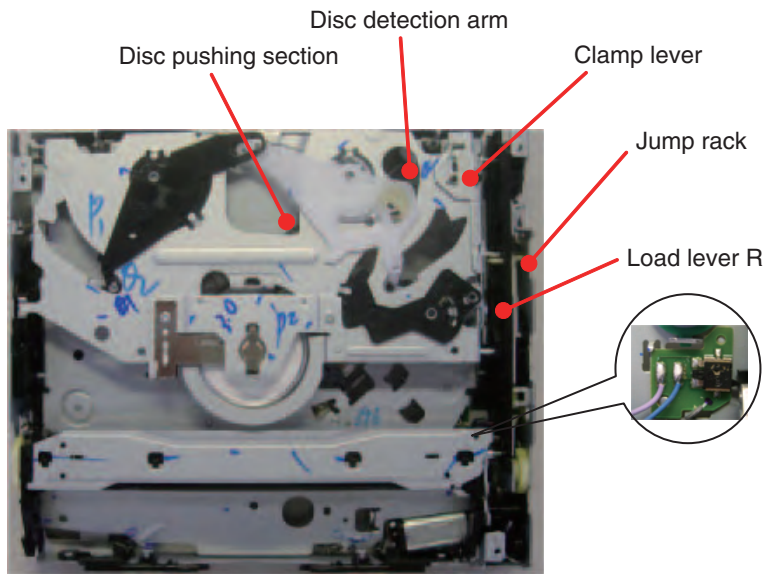


2. In the case of an 8 cm disc, if a disc is inserted being shifted to the left or the right, the disc will first hit the lock arm R or L. As the lock arm R and L are coupled via the centering arm R and L and the lock will not be released unless both are pushed, the disc will be restricted by the fixed lock arm and centered. The disc pushes out the detection arm while being centered, the disc stops at a position where the motion of the detection arm is completed, and the clamping motion will be taken.

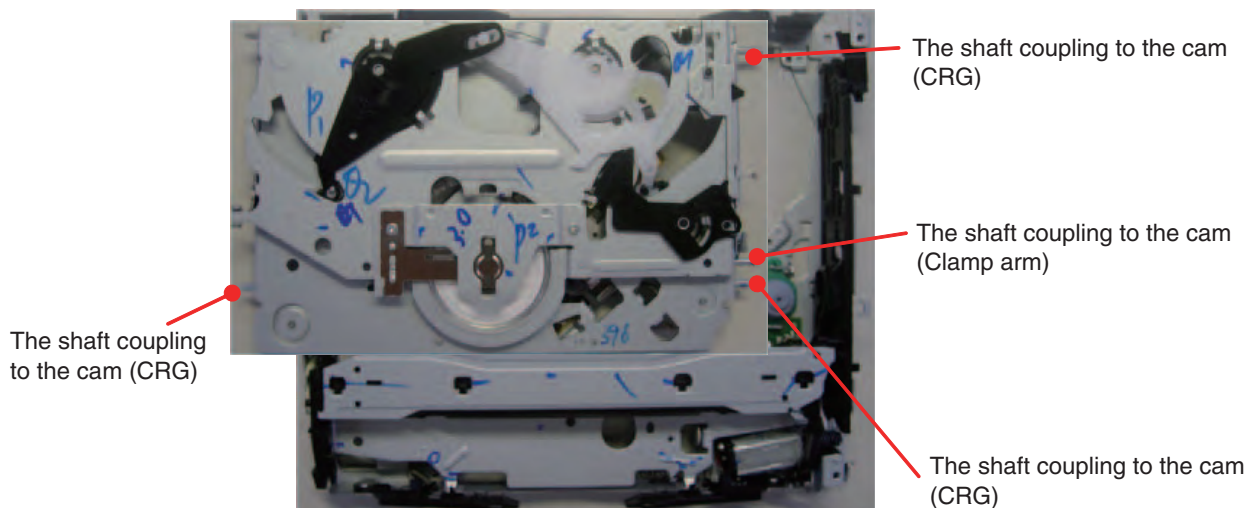


## 2.3 Clamping operation

1. When a disc is loaded, the clamp lever will be driven by the disc detection arm being pushed by an 8 cm or a 12 cm disc. By engagement of the jump rack and the lever driving gear, the disc clamping motion will start.



2. When the load lever R pushed by the jump rack moves to the front side of the mechanism, the roller shaft restricted by the cam of the load lever R will move downward. And the roller shaft is also restricted by the cam of the cam ring. The power of the roller shaft is transferred to the load lever L via the cam ring, and the load lever L will move to the front side of the mechanism. The coupling of the load cam attached to each load lever, three shafts of the CRG chassis unit and the shaft of the clamp arm will be released, and the clamping motion will be completed at a position where the switch pushing section of the load lever R turns the clamp SW to ON.



## 2.4 Ejection operation

1. The loading motor reverse rotates, and the ejection motion will start.
2. In the case of a 12 cm disc, the ejection will be completed by OFF→ON→OFF of SW4.
3. In the case of an 8 cm disc, the ejection will be completed when both SW3 and SW6 become ON after either SW3 or SW6 is ON→OFF.



### 3. DISASSEMBLY

#### ● How to hold the mechanism section (Fig 1)

1. Hold the main frame and the top frame.
2. As the mechanical strength of the front part of the top frame is not strong, do not hold this part.
3. Do not touch the switches provided on the top face of the mechanism section.
4. Be careful not to pull the flexible PCB on the side face.

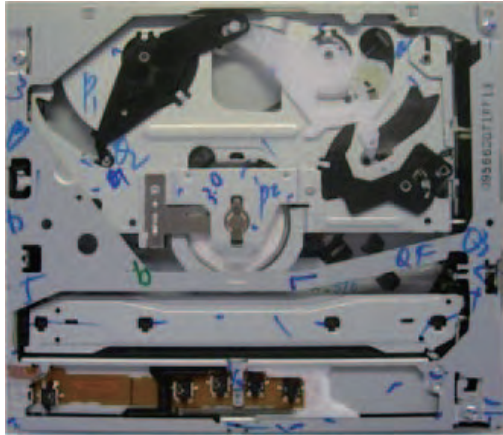


Fig 1

Do not touch this part. Do not touch this part. Do not touch this part.

#### ● How to remove the module PCB (Fig 2, Fig 3)

1. Put the mechanism section in locked state (disc load standby position).
2. Hold the mechanism module with its top face down.
3. Make the lands at 2 locations on the pick up flexible PCB short.
4. Disconnect the connectors of the pick up flexible PCB and the SPDL flexible PCB.  
(Be sure to disconnect the connectors as the flexible PCB will be damaged if the PCB is removed without removing the flexible PCB.)
5. Remove the solder joint of the lead wire of the load motor and the clamp SW.
6. Remove the two screws, and then remove the module PCB.  
(Lift up point A slightly and remove it toward B direction. Be careful as the point C is connected with a flexible PCB.)
7. Disconnect the connector of the 8-12 detection flexible PCB from the PCB.

Fig 2

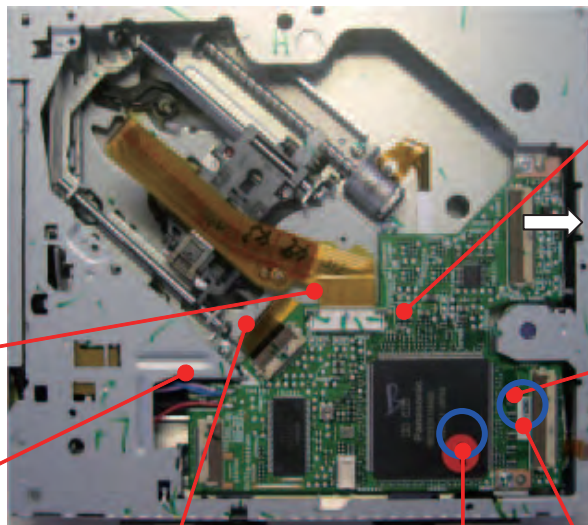
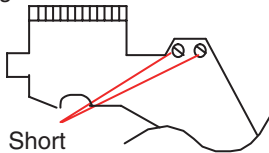


Fig 3



### ● How to remove the spindle motor (Fig 4)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Remove the flexible PCB of the CRG motor from the connector of the spindle motor.
3. Remove the three motor mounting screws. When mounting or removing the motor, be careful not to deform the CRG chassis.

### ● How to remove the CRG motor assy (Fig 4)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Remove the Mylar tape.
3. Remove the flexible PCB of the CRG motor from the connector of the spindle motor.
4. Remove the two screws, and then remove the CRG motor assy.

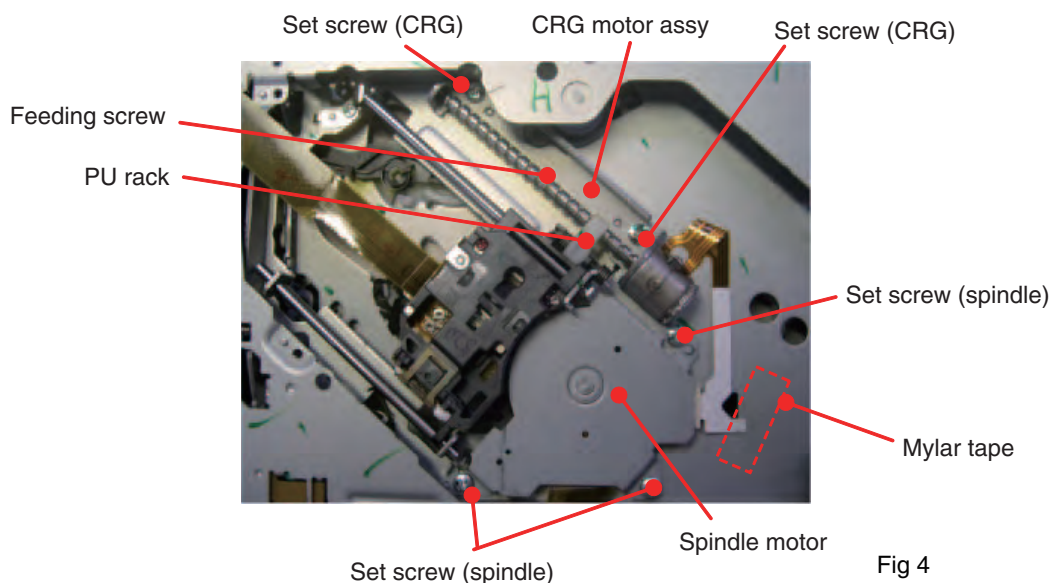


Fig 4

### ● How to remove the upper frame assy (Fig 5)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Remove the vibration-proof spring (right front).
3. Remove the four screws, and then remove the upper frame assy.

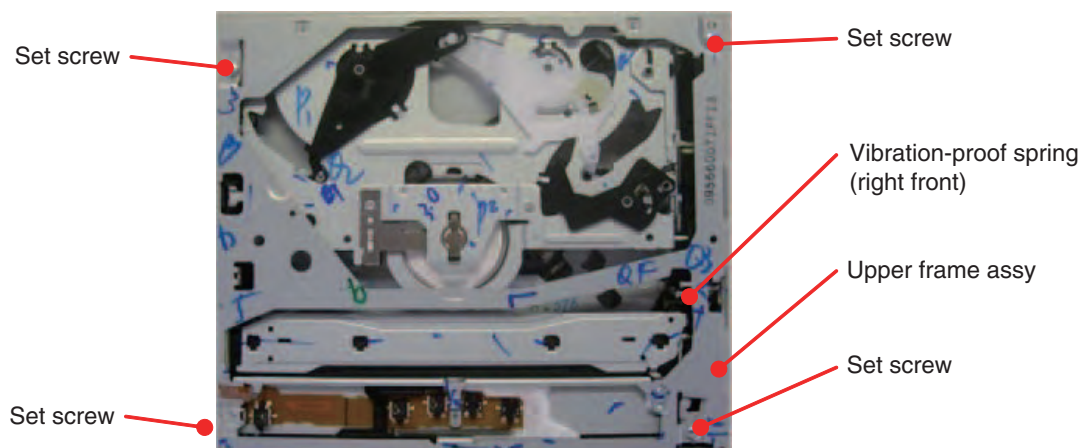


Fig 5

### ● How to remove the PU unit (Fig 6)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Hang the main shaft holding spring to the CRG chassis temporary hanger.
3. Remove the CRG motor assy according to the instructions in "How to remove the CRG motor assy".
4. Remove the holding plate spring of the main shaft.
5. While lifting up the tip of the pick up rack, slide the main shaft, and remove the PU unit.

(Note) When mounting the PU unit again, make sure to do the adjustments of the devices mounted thereon according to the descriptions of the service manual. Furthermore, make sure to hang the main shaft holding spring permanently.

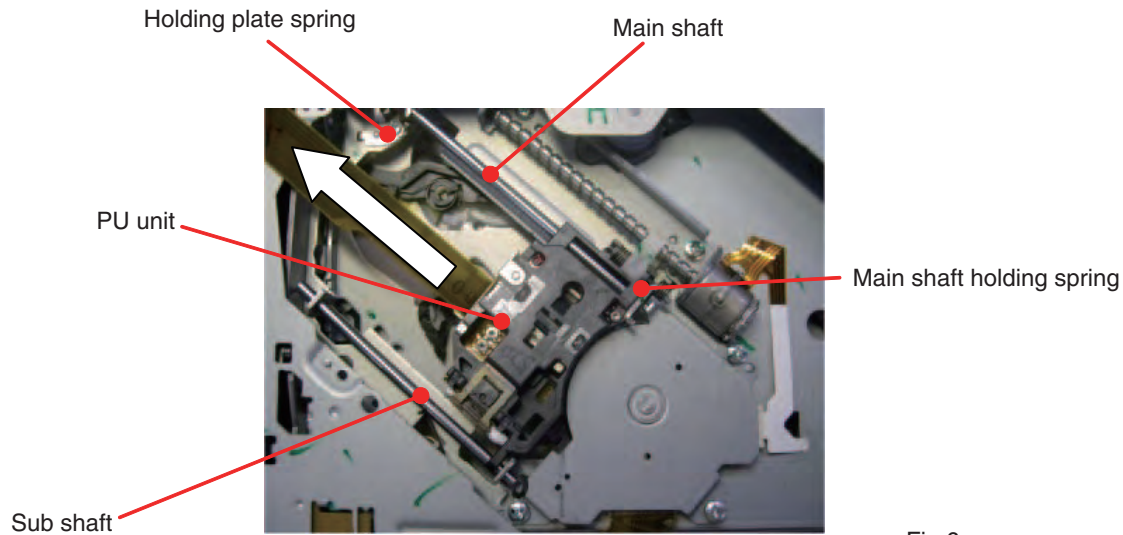
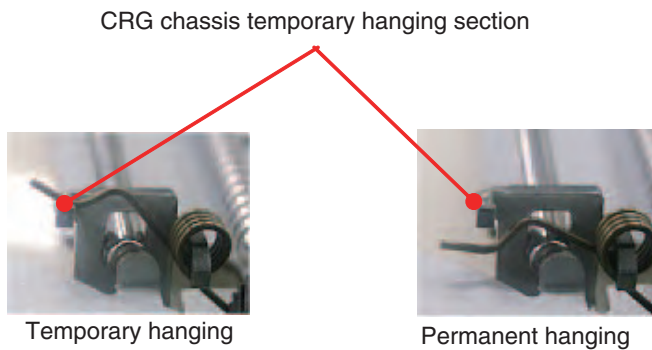


Fig 6



### ● How to remove the load gear assy (Fig 7)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Remove the upper frame assy according to the instructions in "How to remove the upper frame assy".
3. Remove the two screws, and then remove the load gear assy.
4. Remove the jump rack and the rack attached spring.

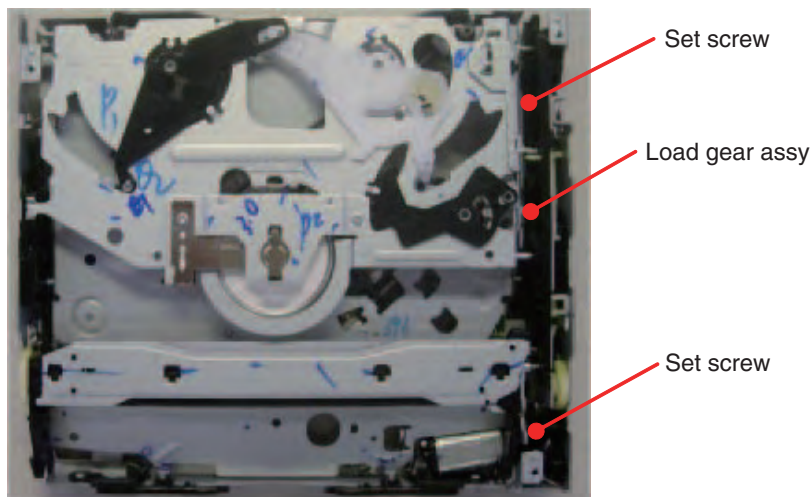


Fig 7

### ● How to make the empty clamp state (motor driven empty clamp) (Fig 8)

1. While driving the motor in the clamping direction, pull the clamp lever toward you.
2. Even if the clamp lever has pushed the jump rack putting it in the clamped state, continue pulling the clamp lever toward you lightly until it is stopped. It should be noted that the ejection will not work if the bar ring of the clamp lever is positioned at the center of the hook shape. (Fig 9)
3. When the clamping motion is finished, stop the motion before the convex shape of the jump rack touches the load lever R. (Fig 10)

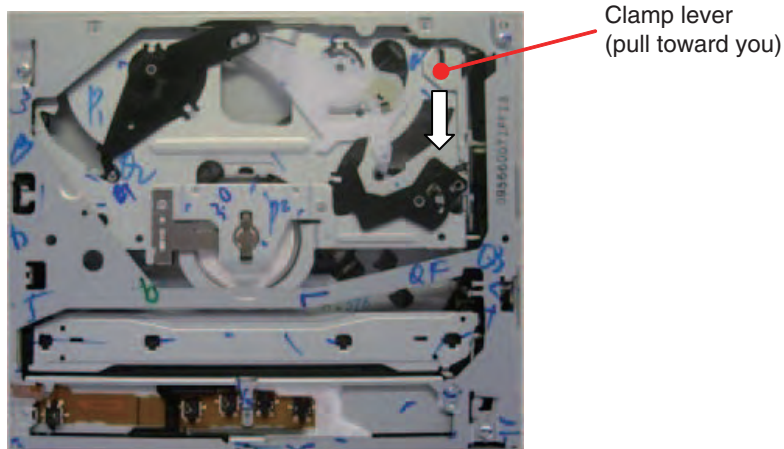


Fig 8

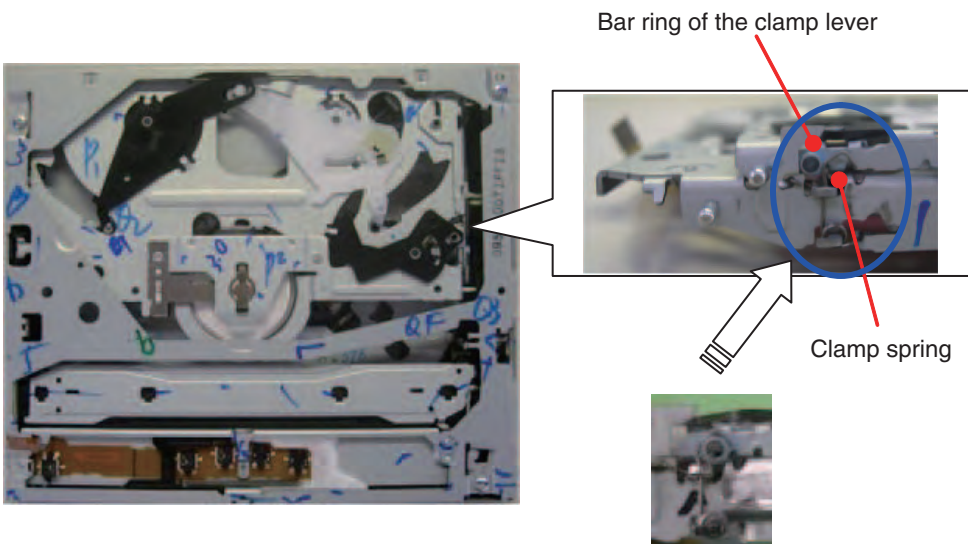


Fig 9

Make sure that the bar ring of the clamp lever does not get inside the clamp spring.

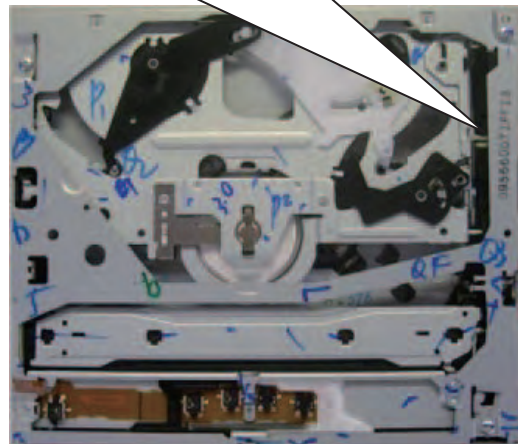
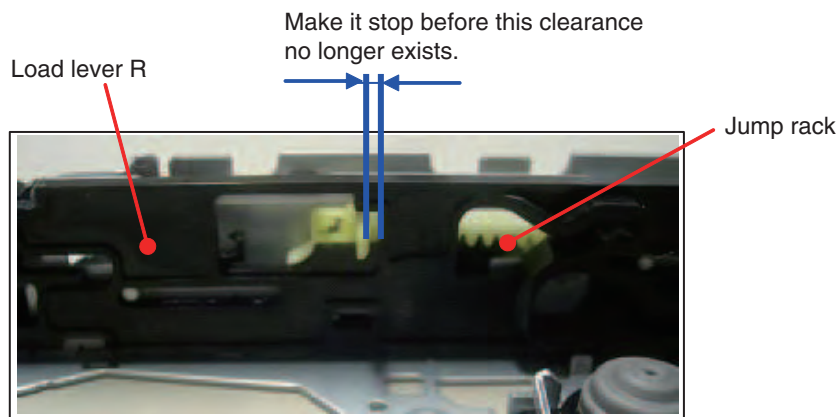


Fig 10



### ● How to make the empty clamp state (manual empty clamp) (Fig 11)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Remove the upper frame assy according to the instructions in "How to remove the upper frame assy".
3. Remove the load gear assy according to the description in "How to remove the load gear assy".
4. While pulling the clamp lever toward you, pull the slip stopper of the load lever R, and make it clamp.

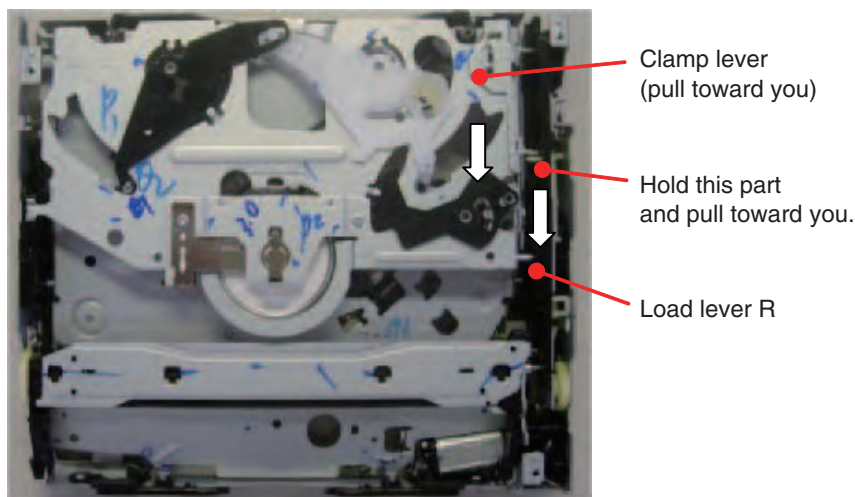


Fig 11

### ● How to remove the load motor assy (Fig 12)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Remove the upper frame assy according to the instructions in "How to remove the upper frame assy".
3. Remove the load gear assy according to the description in "How to remove the load gear assy".
4. Make the empty clamp state according to the description in "How to make the empty clamp state (manual empty clamp)".
5. Remove the screw and then pull out the load motor assy from the side.

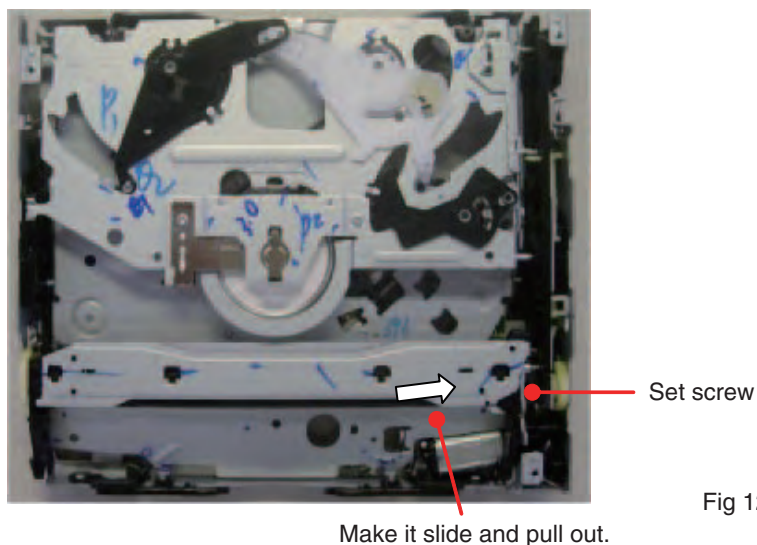


Fig 12

### ● How to remove the CRG assy (Fig 13)

1. Make the empty clamp state according to the description in "How to make the empty clamp state (motor driven empty clamp)".
2. Remove the module PCB according to the instructions in "How to remove the module PCB".
3. Remove the upper frame assy according to the instructions in "How to remove the upper frame assy".
4. Remove the three vibration-proof springs.
5. Remove the CRG assy by lifting it up until the shaft slips out of the damper.

### ● How to remove the disc guide assy (Fig 13)

1. Make the empty clamp state according to the description in "How to make the empty clamp state (motor driven empty clamp)".
2. Remove the module PCB according to the instructions in "How to remove the module PCB".
3. Remove the upper frame ASSY according to the instructions in "How to remove the upper frame assy".
4. Remove the two screws, and then remove the disc guide by lifting it up and placing it at 45° position and further sliding it to the left.

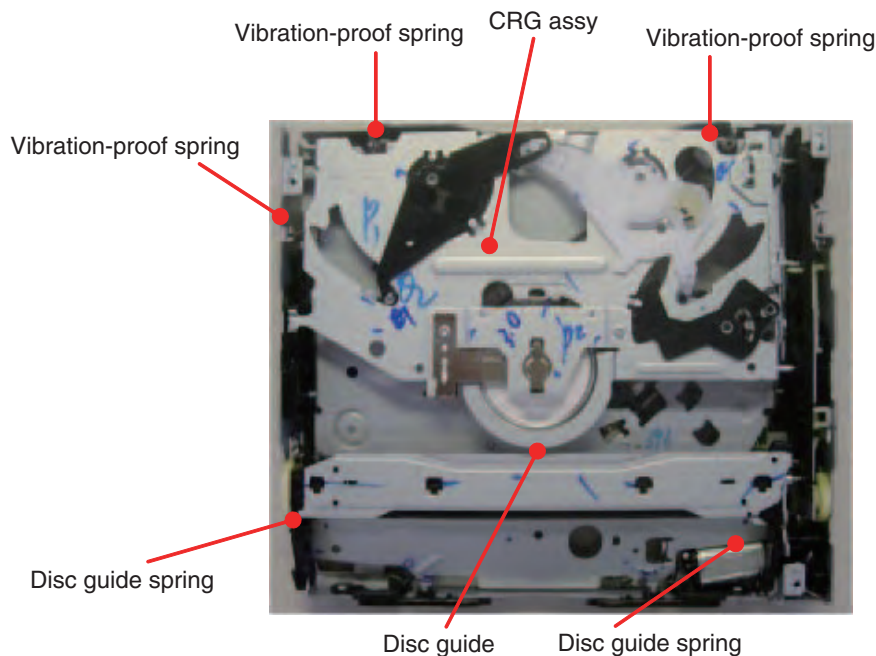


Fig 13

### ● How to remove the roller assy (Fig 14)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Remove the upper frame assy according to the instructions in "How to remove the upper frame assy".
3. Remove the extension spring.
4. Remove the load gear assy according to the description in "How to remove the load gear assy".
5. Make the empty clamp state according to the description in "How to make the empty clamp state (manual empty clamp)".
6. Remove the disc guide assy according to the description in "How to remove the disc guide assy".
7. Remove the CRG assy according to the description 4 and 5 in "How to remove the CRG assy".
8. Push the slip stopper of load lever R toward the back, and move it until the end.
9. Remove the load motor assy according to the description in "How to remove the load motor assy".
10. Remove the roller arm spring R • L.

As for the roller arm spring R, remove only the tip hanging on the load lever R.

11. Remove the extension spring, and then remove the roller assy by lifting it up to the highest position and sliding it toward the right.

(Note) Be careful not to deform the shutter when removing the roller assy.

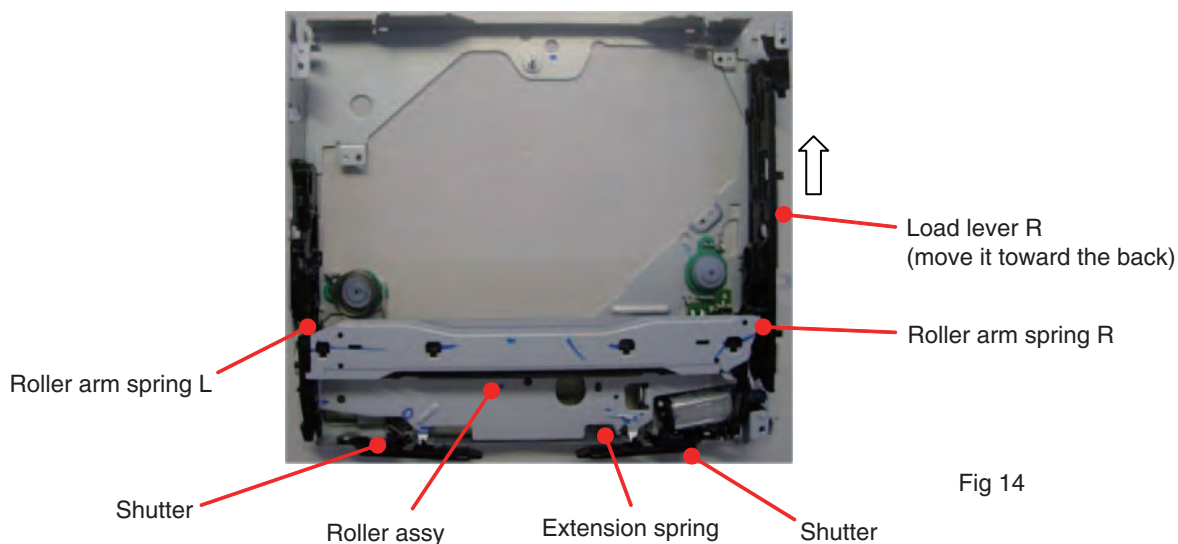


Fig 14

### ● How to remove the damper (Fig 15)

1. Make the empty clamp state according to the description in “How to make the empty clamp state (manual empty clamp)”.
2. Remove the module PCB according to the instructions in “How to remove the module PCB”.
3. Remove the upper frame assy according to the instructions in “How to remove the upper frame assy”.
4. Remove the three vibration-proof springs.
5. Remove the CRG assy according to the description 4 and 5 in “How to remove the CRG assy”.
- 6.1 Release the clinch by holding the A section of the damper attached to the main frame using a pair of pliers and lifting it up toward B direction.  
(As there will be a gap made at section C, remove the damper.)
- 6.2 Insert a screwdriver into section D, release the clinch by lifting up a metal plate on the other side, and remove the damper.
- 7.1 Remove the CRG motor assy according to the description 3 and 4 in “How to remove the CRG motor assy”.
- 7.2 Remove the damper.

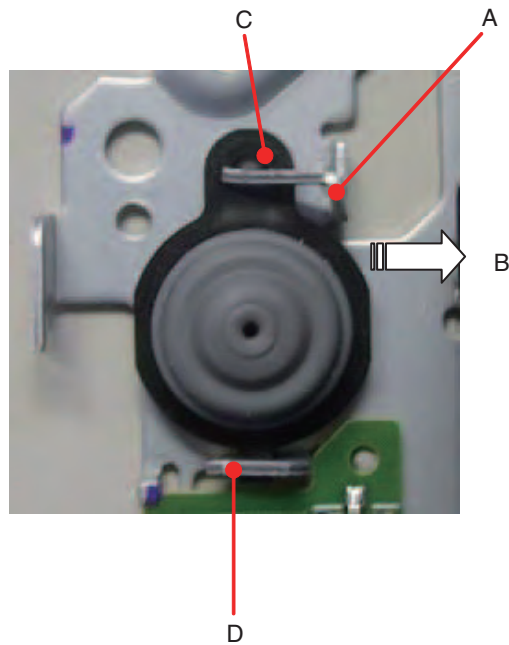


Fig 15